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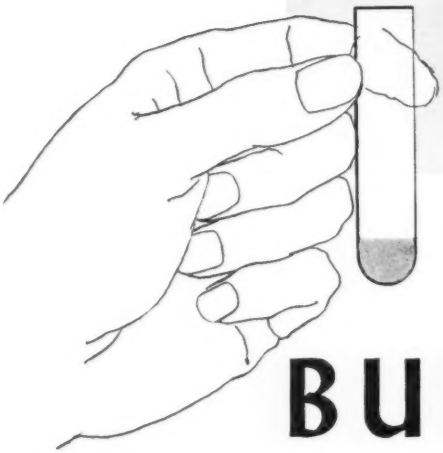

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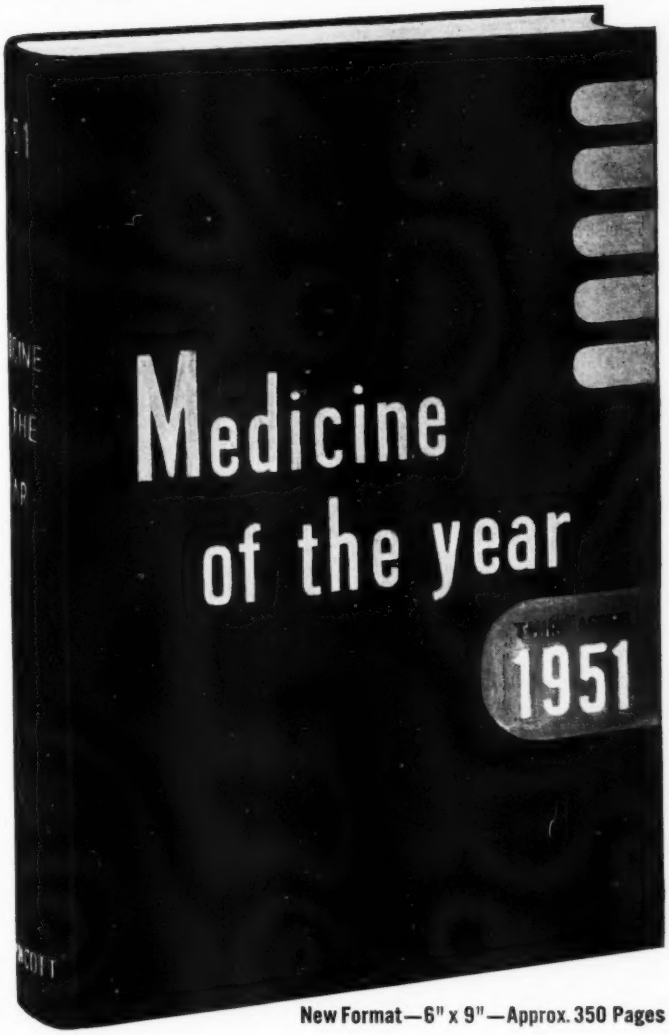

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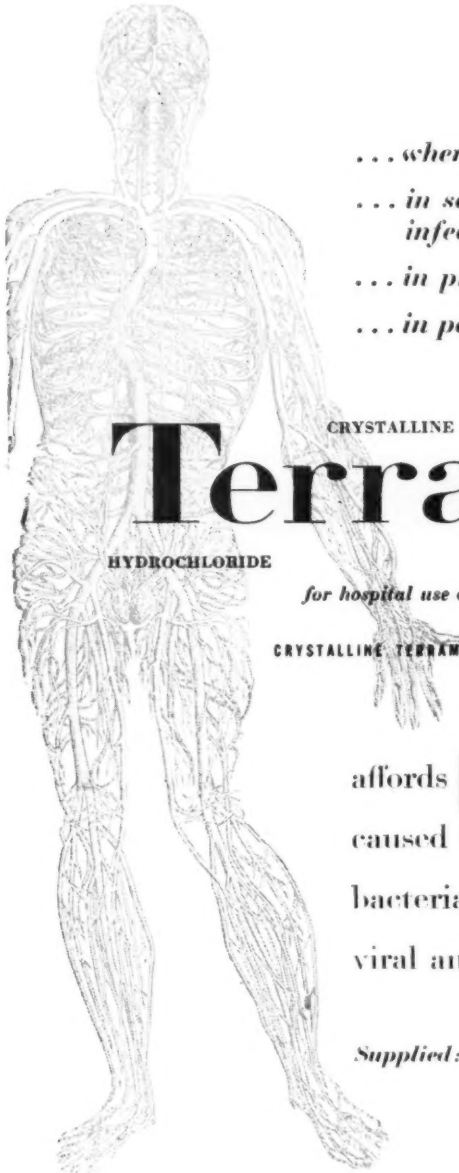

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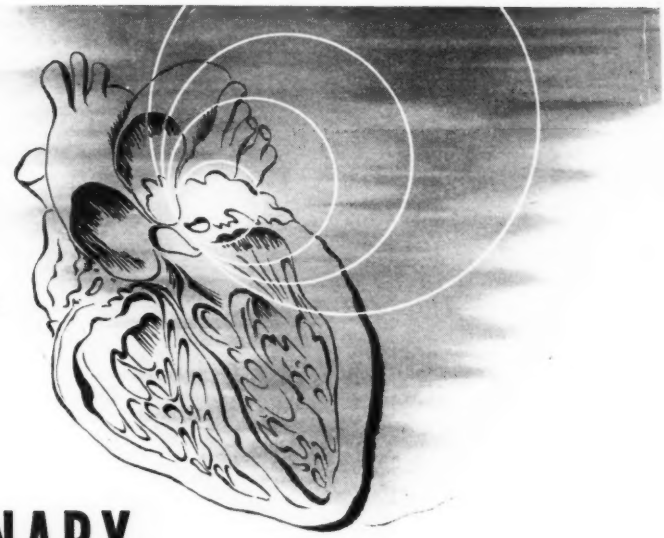

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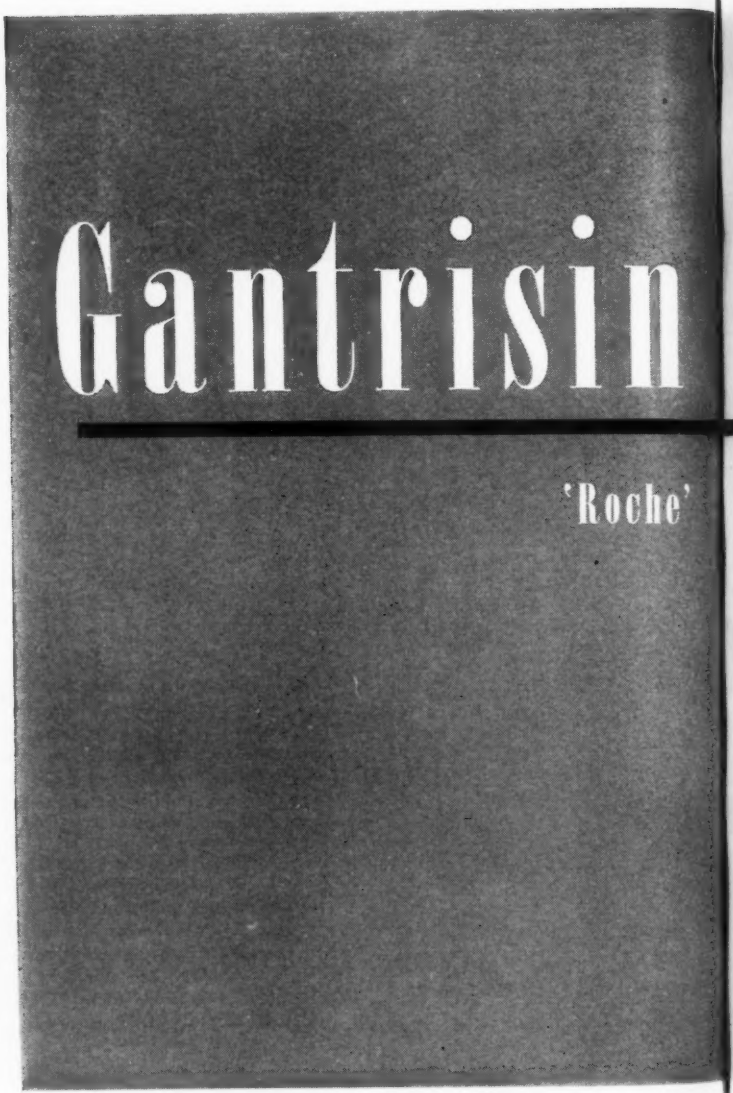
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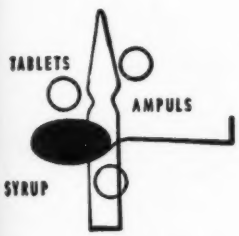

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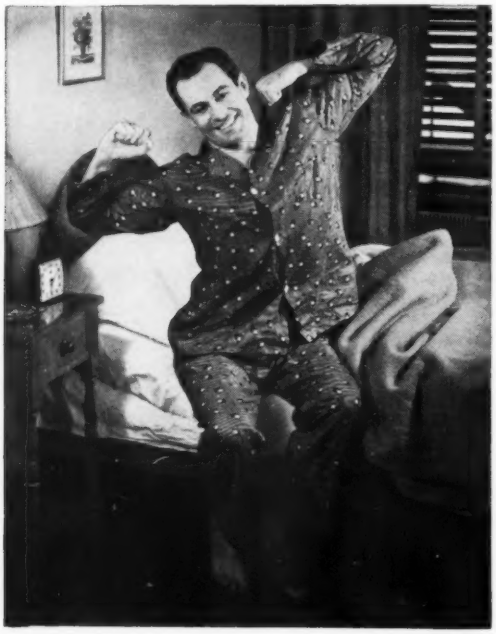

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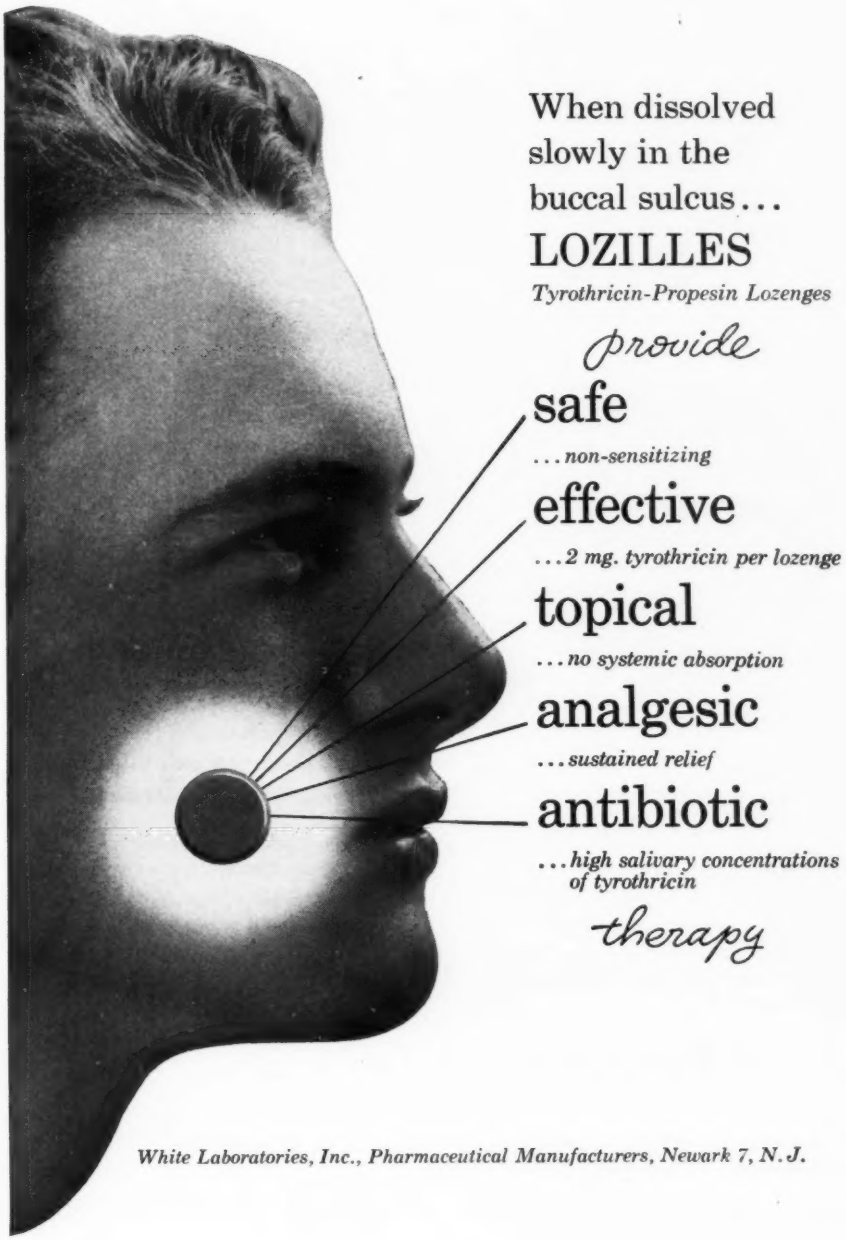

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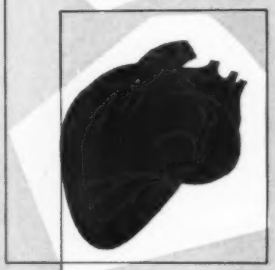

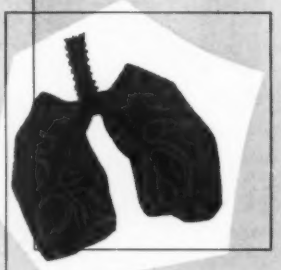

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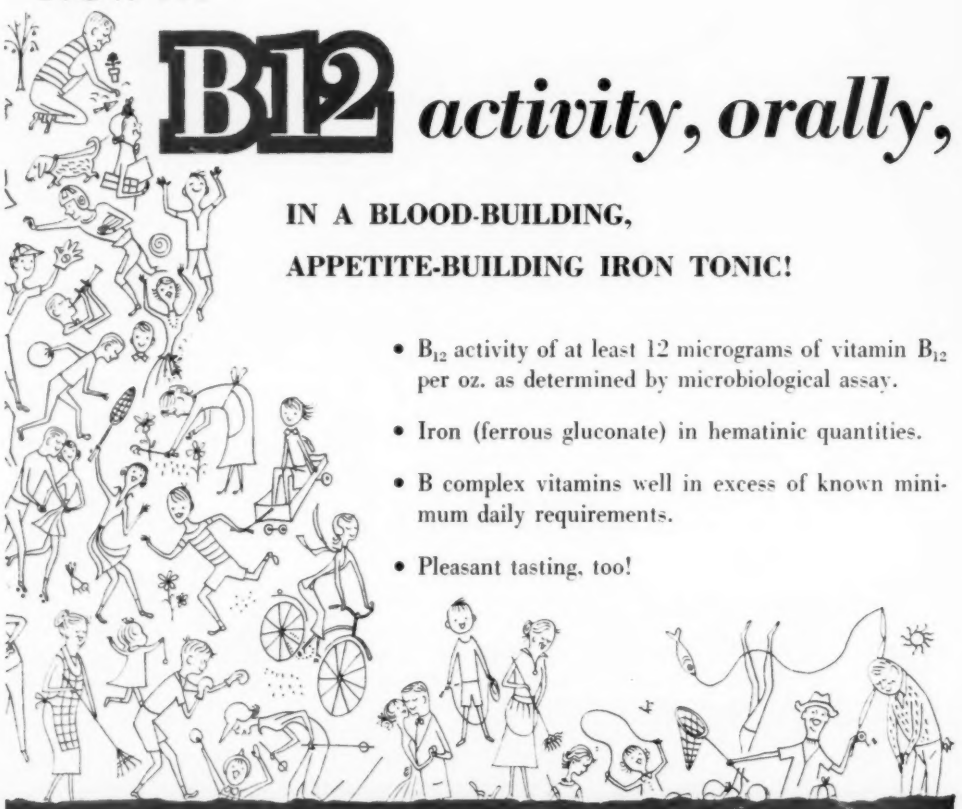

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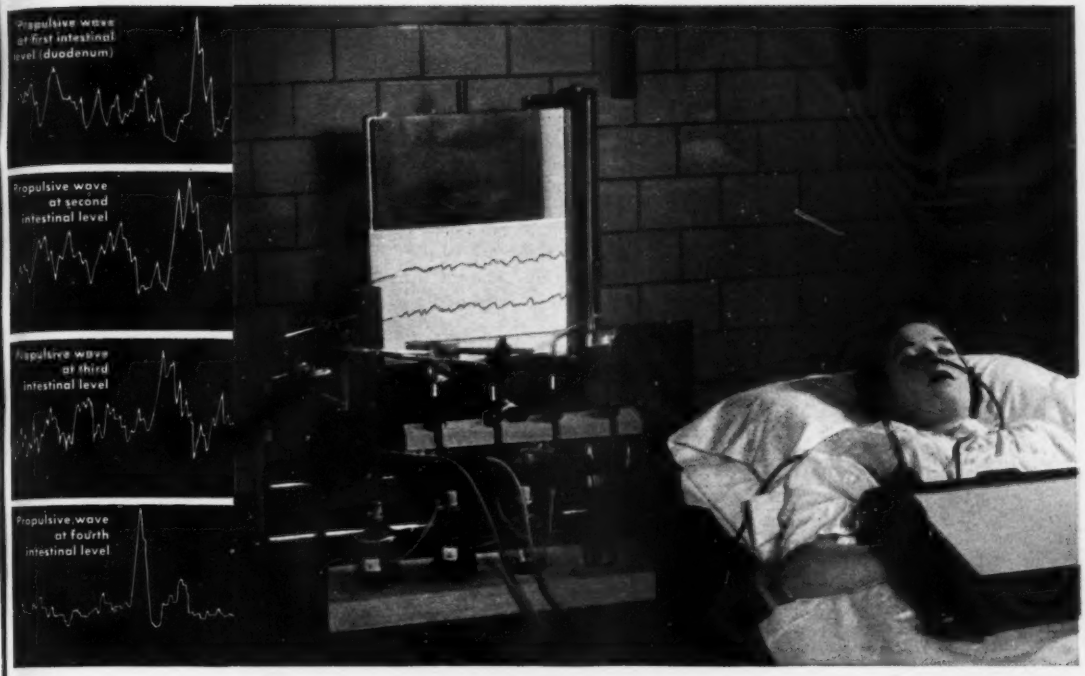
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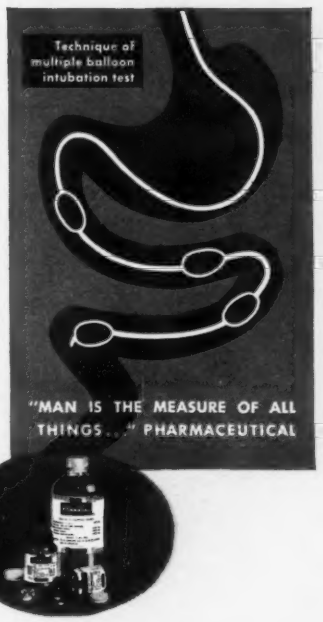

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FORMULA: Each tablet, each capsule, and each 5 cc. (1 teaspoonful) of Elixir, contains 0.1037 mg. hyoscyamine sulfate, 0.0194 mg. atropine sulfate, 0.0065 mg. hyoscine hydrobromide, and 16.2 mg. (¼ gr.) phenobarbital.

A. H. ROBINS CO., INC., RICHMOND 20, VA.

Donnatal®

Robins

TABLETS • CAPSULES • ELIXIR

WHENEVER and WHEREVER spasm of smooth muscle causes pain or dysfunction

First aid for the *"digestive casualty"*

Entozyme greatly simplifies a broad therapeutic approach to many often complex disturbances of the gastro-intestinal tract, through its provision of potent amounts of the principal digestive enzymes: pepsin, pancreatin (with its lipase, amylase, and trypsin), and bile. Its special "tablet-within-a-tablet" construction controls the release of each essential digestive enzyme at its own appropriate gastro-enteric level... in its optimal state of enzymatic activity. This unique action explains the relief gratifyingly elicited in so many cases of pathologic or functional impairment of the digestive process.[1,2,3]

REFERENCES: 1. Kammandel, H. et al.: Bull. N. Y. Med. Coll., Flower & Fifth Ave. Hosps. (in press). 2. McGavack, T. H. and Klotz, S. D.: Bull. N. Y. Med. Coll., Flower & Fifth Ave. Hosps., 9:61, 1946. 3. Weisberg, J. et al.: Am. J. Dig. Dis., 15:332, 1948.

FORMULA: Each tablet contains 300 mg. pancreatin, U.S.P., 250 mg. pepsin N.F., and 150 mg. bile salts.

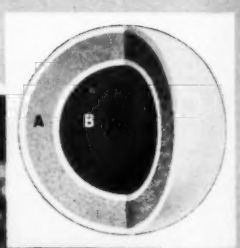
A. H. ROBINS CO., INC., RICHMOND 20, VA.

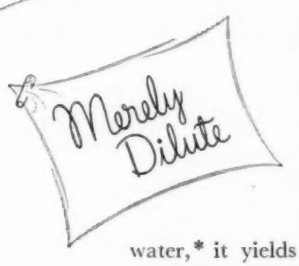
ENTOZYME®

Robins

A SINGULARLY effective, DOUBLE-layered tablet, with TRIPLE-enzyme digestive action.

Gastro-soluble enzymes are released from outer shell (A) in stomach; entero-active enzymes from inner core (B) in duodenum and jejunum.





Ready to use and in liquid form, Dextrogen is a concentrated infant formula, made from whole milk modified with dextrins, maltose, and dextrose. In addition, it is fortified with iron to compensate for the deficiency of this mineral in milk. Diluted with 1½ parts of boiled water,* it yields a mixture containing proteins, fats and carbohydrates in proportions eminently suited to infant feeding. In this dilution it supplies 20 calories per ounce.

The higher protein content of normally diluted Dextrogen—2.2% instead of 1.5% as found in mother's milk—satisfies every known protein need of the rapidly growing infant. Its lower fat content makes for better tolerability and improved digestibility.

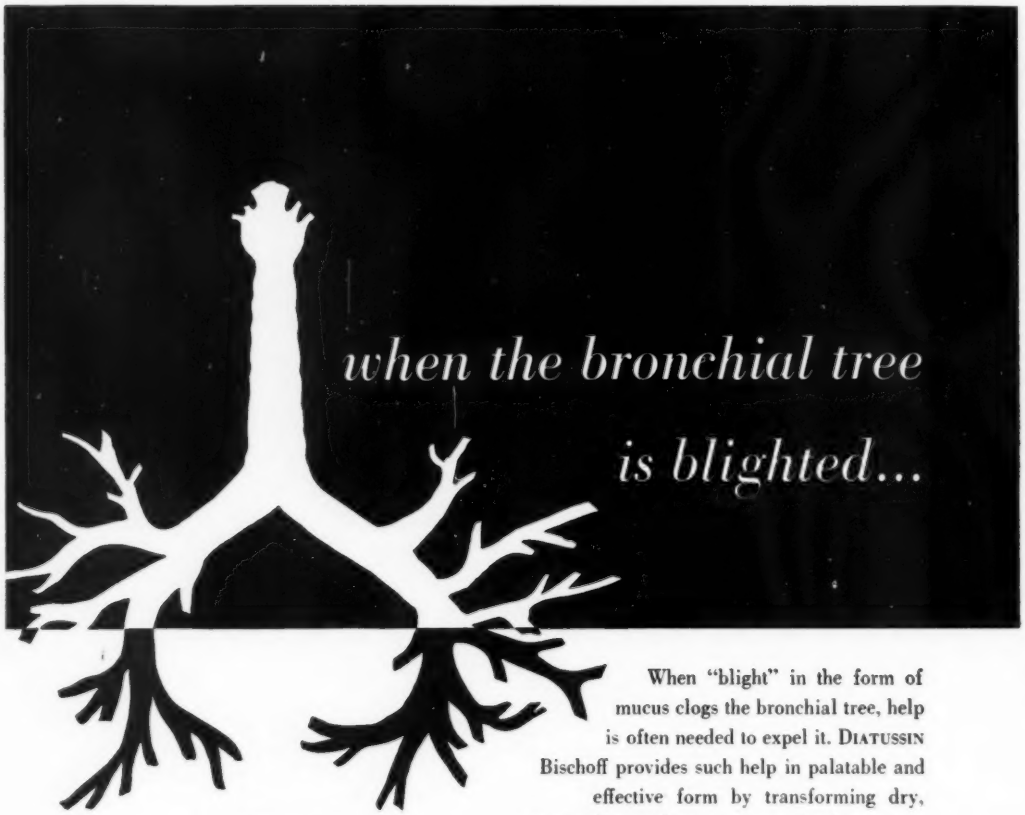
Dextrogen serves well whenever artificial feeding is indicated, and is particularly valuable when convenience in formula preparation is desirable.

*Applicable third week and thereafter; 1:3 for first week, 1:2 for second week.

NOTE HOW SIMPLE TO PREPARE

All the mother need do is pour the contents of the Dextrogen can into a properly cleaned quart milk bottle, and fill with previously boiled water. Makes 32 oz. of formula, ready to feed.*

THE NESTLÉ COMPANY, INC.
COLORADO SPRINGS, COLORADO



When "blight" in the form of mucus clogs the bronchial tree, help is often needed to expel it. DIATUSSIN Bischoff provides such help in palatable and effective form by transforming dry, spasmodic coughs to easier, productive ones.

DIATUSSIN®

non-narcotic cough control **Bischoff**

acts both centrally and locally, bringing rapid relief to patients by curbing useless cough and liquefying secretions. Gastric disturbance and sedation are avoided.

DIATUSSIN Bischoff, concentrated extract, in 6 cc. dropper bottles. Dosage: 2 to 7 drops three or four times daily.

DIATUSSIN Syrup in 4 oz. and 1 pint bottles. Each teaspoonful contains 2 drops of the extract.

ERNST BISCHOFF COMPANY, INC · IVORYTON, CONN.

AT THE
FIRST
SNEEZE

That's the sign for SYNTHENATE TARTRATE therapy ... for, in the early phase of coryza, this simple treatment brings gratifying, often dramatic relief.

In 65% of cases complete remission of symptoms occurs within fifteen minutes after injection of 1 cc of SYNTHENATE TARTRATE-Breon, when administered within twenty-four hours of the first sign of a cold!

Injection is simple...relatively nontoxic...prolonged in effect. SYNTHENATE TARTRATE-Breon increases cardiac efficiency and frequently slows the pulse rate; thus it is effective without appreciably increasing the work of the heart. It does not cause cardiac arrhythmias, does not stimulate the central nervous system, does not produce signs of anxiety.

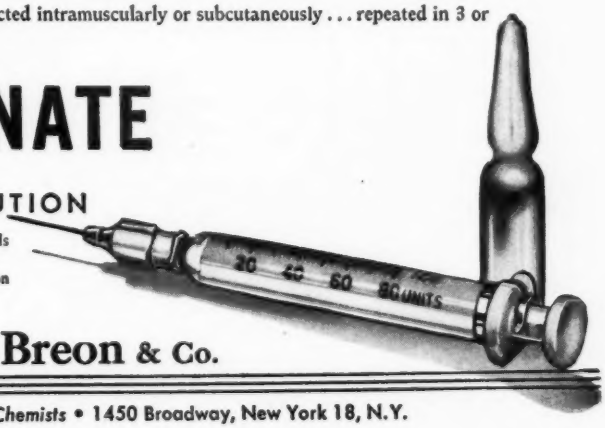
DOSAGE: 1 cc injected intramuscularly or subcutaneously ... repeated in 3 or 4 hours, if required.

SYNTHENATE

Trademark

TARTRATE SOLUTION

Available at all drug stores. 1 cc ampuls — boxes of 12 and 25.
Complete literature to physicians on request.



BREON

George A. Breon & Co.

Pharmaceutical Chemists • 1450 Broadway, New York 18, N.Y.

how the Paredrine in Par-Pen helps its penicillin fight intranasal infection

Council-accepted Paredrine Hydrobromide produces rapid and prolonged shrinkage of nasal mucosa. The nasal passages are opened so that the penicillin can "get through" to the infected areas. Bacteriostasis is thereby facilitated.

Paredrine does not break down the penicillin. Par-Pen remains at full therapeutic potency for an entire week—even when kept at room temperature.

Par-Pen contains crystalline potassium penicillin G, 5000 units per cc.; Paredrine Hydrobromide (hydroxyamphetamine hydrobromide, S.K.F.), 1%; in a specially buffered isotonic aqueous solution. Packaged in ½ fl. oz. bottles.

Smith, Kline & French Laboratories, Philadelphia

Par-Pen

the penicillin-vasoconstrictor for intranasal use

'Paredrine' & 'Par-Pen' T.M. Reg. U.S. Pat. Off.

You are familiar with the choleretic action of bile salts, with the flushing effect of dehydrocholic acid. Now, you may prescribe both in a single preparation, HYDRO-BILEIN.

Each HYDRO-BILEIN tablet contains 2 grs. dehydrocholic acid and 2 grs. dried, purified ox bile (natural unoxidized bile salts). Administered together in this form, their separate functions complement each other—the one sluicing out inspissated bile or products of inflammation from the biliary tract, the other stimulating the production of bile solids. Together they facilitate gall bladder emptying and increase intestinal motility.

The average dose is one tablet two to four times daily, preferably after meals. Dosage may be reduced if it produces an undesired laxative effect.

Your pharmacy has an ample supply of HYDRO-BILEIN in bottles of 100 and 1000 sugar-coated red tablets. Abbott

Raising pain's threshold is Phenaphen with Codeine's business! Its efficacy is directly attributable to the potentiating

action of these five anodyne and sedative components.

(Acetylsalicylic acid U.S.P. 2½ gr., phenacetin 3 gr., phenobarbital U.S.P. ¼ gr., and hyoscyamine sulfate .031 mg., with codeine phosphate ¼ or ½ gr.)

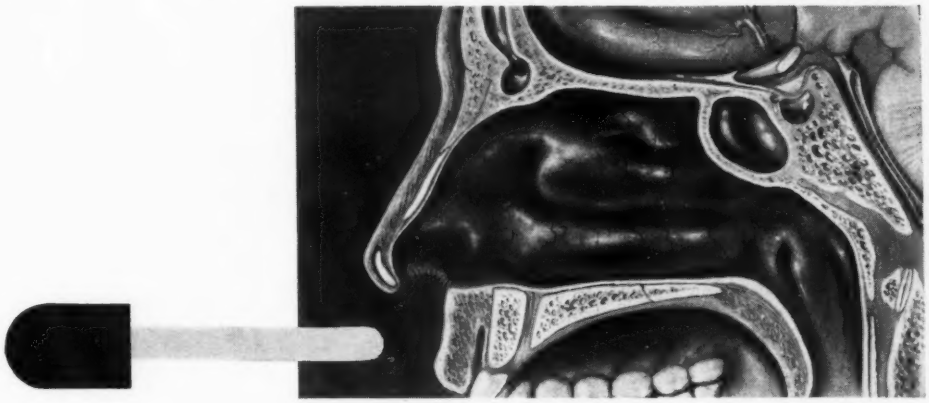
Phenaphen® with Codeine

is a product of **A. H. ROBINS CO., INC. • RICHMOND 20, VA.**

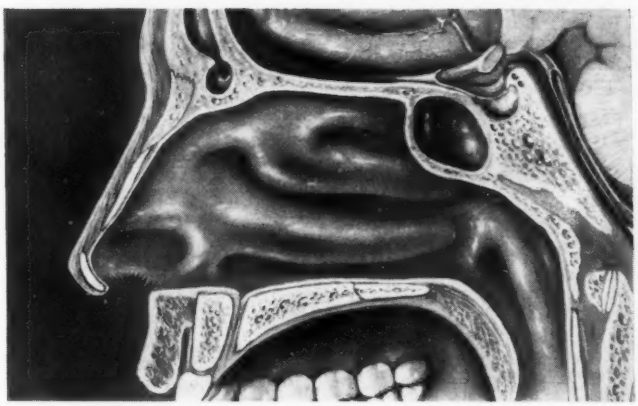
Ethical Pharmaceuticals of Merit since 1878

Robins

10 *clinical advantages*



WITH JUST 2 DROPS *Privine* .05%



in decongestion

1. potent 2. prompt 3. prolonged 4. free from significant C.N.S. effects 5. few or no systemic effects 6. virtually non-allergenic 7. consonant with local physiologic function 8. non-irritating 9. safe 10. fosters patient cooperation.

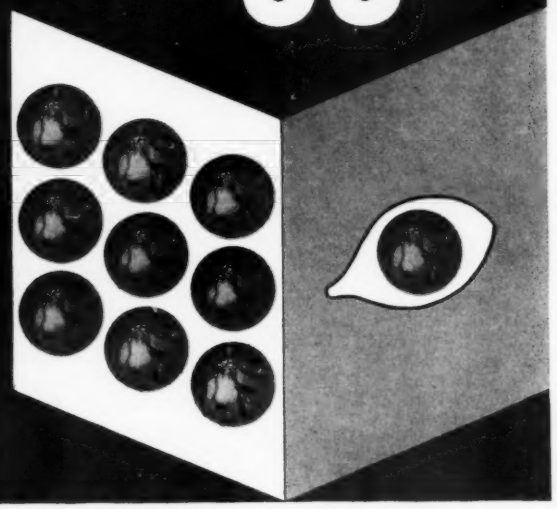
PRIVINE® (BRAND OF NAPHAZOLINE) HYDROCHLORIDE E/1718 M

Ciba SUMMIT, NEW JERSEY

IN HYPERTENSION...
capillary fragility controlled in 88%

In 152 of 173 hypertensives, the Gothlin index of capillary fragility became permanently negative following treatment with Rutin.[1]

Similarly in 13 hypertensive patients, capillary fragility was reduced to normal within 12 weeks.[2]



3-way control with RUTOL

(A brand of Rutin, Phenobarbital and Mannitol Hexanitrate, P.-M. Co.)

Rutol combines the valuable prophylactic effect of rutin against capillary fragility and possible cerebral accident, with the sustained well-tolerated vasodilative action of mannitol hexanitrate and the central sedation of phenobarbital.

WELL TOLERATED • EASY TO TAKE

Each Rutol Tablet contains:

Rutin	10 mg. (1/6 gr. approx.)
Phenobarbital	8 mg. (1/8 gr.)
Mannitol Hexanitrate	16 mg. (1/4 gr.)

Bottles of 100, 500 and 1000 tablets.

1. Griffith, J. Q., Jr. and Associates: Proc. Soc. Exper. Biol. & Med. 55:228-229 (March) 1944.
2. Shanno, R. L.: Amer. J. M. Sc., 211:539-543 (May) 1946.

PITMAN-MOORE COMPANY
PHARMACEUTICALS AND BIOLOGICAL CHEMISTS
DIVISION OF ALLIED LABORATORIES, INC., INDIANAPOLIS 6, INDIANA

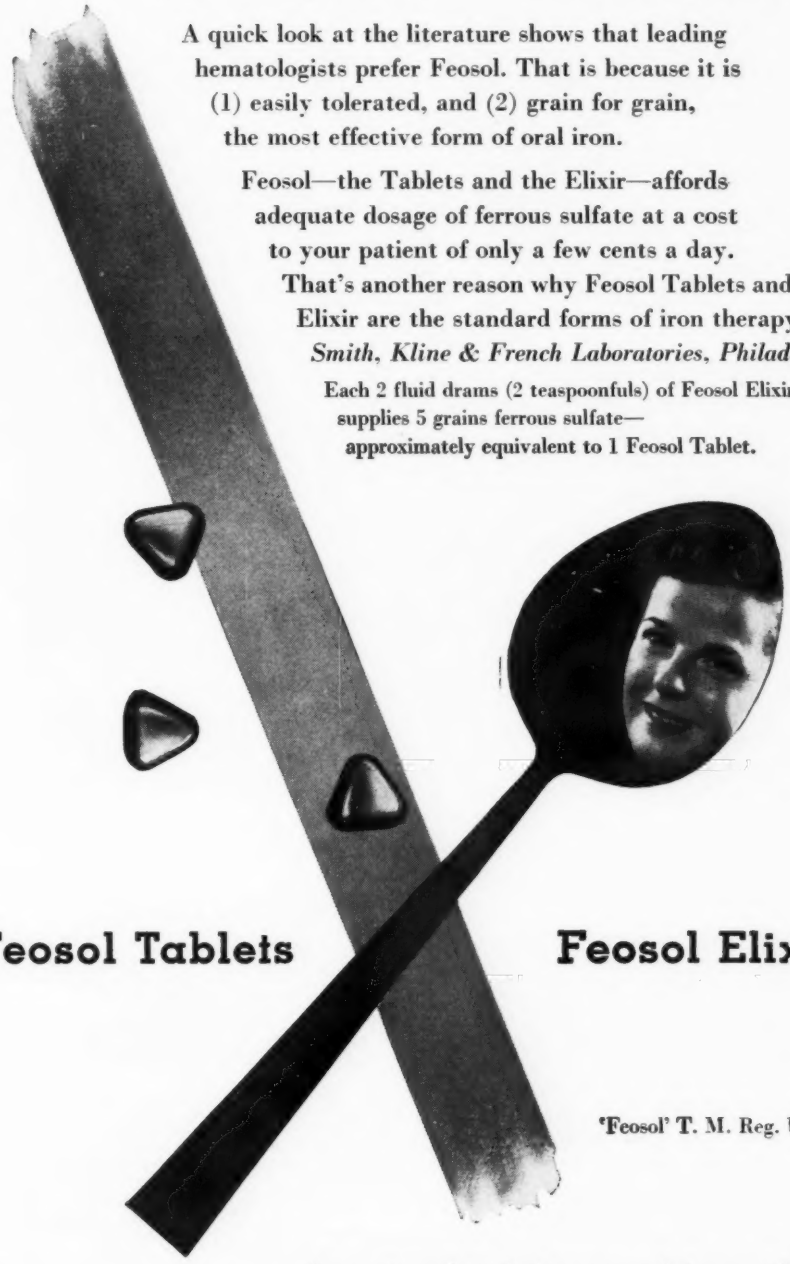
Most easily tolerated, most effective in simple iron-deficiency anemias

A quick look at the literature shows that leading hematologists prefer Feosol. That is because it is (1) easily tolerated, and (2) grain for grain, the most effective form of oral iron.

Feosol—the Tablets and the Elixir—affords adequate dosage of ferrous sulfate at a cost to your patient of only a few cents a day. That's another reason why Feosol Tablets and Feosol Elixir are the standard forms of iron therapy.

Smith, Kline & French Laboratories, Philadelphia

Each 2 fluid drams (2 teaspoonfuls) of Feosol Elixir supplies 5 grains ferrous sulfate—approximately equivalent to 1 Feosol Tablet.



Feosol Tablets **Feosol Elixir**

'Feosol' T. M. Reg. U.S. Pat. Off.

the standard forms of iron therapy

"pins and needles"

of dysmenorrhea

Many of your patients are on "pins and needles" just before and during menstruation because of the nervous and emotional upset, mental anguish and physical suffering which accompany such common complaints as dysmenorrhea and premenstrual tension. You'll find that in many cases the use of Progestoral (anhydro-hydroxy-progesterone)—Organon's orally effective form of the luteal hormone—will provide for your patients rapid and effective relief from these distressing menstrual disorders which so frequently interfere with women's occupational tasks and home life. Usually you need prescribe only 10 mg of Progestoral per day during the last 7 to 10 days of the cycle to provide relief from premenstrual tension and dysmenorrhea. Progestoral is available in 5-mg, 10-mg, and 25-mg tablets.

Organon INC. • ORANGE, N. J.

PROGESTORAL®

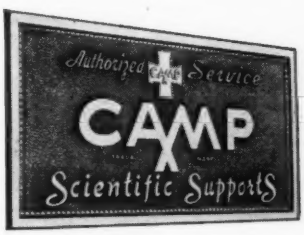
Organon

CAMP

SCIENTIFIC PRENATAL SUPPORTS

Designs developed over many years, in full consultation with obstetricians, insure ample support for the abdominal musculature, pelvic girdle and lumbar spine without constriction at any point. All Camp Supports are accurately fitted about the pelvis. Thus the uterus is maintained in better position, the abdominal muscles and fasciae are conserved and there is support for the relaxed pelvic joints. The patient is assisted in maintaining better balance in the course of the postural changes of pregnancy. Physicians may rely on the Camp-trained fitter for precise execution of all instructions.

If you do not have a copy of the Camp "Reference Book for Physicians and Surgeons", it will be sent on request.



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DOHO RESEARCH PRODUCTS

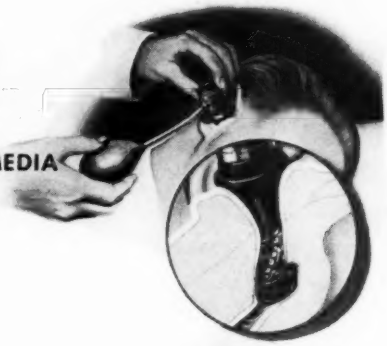
STRICTLY ETHICAL—ADVERTISED ONLY TO THE PROFESSION

Auralgan

for ACUTE OTITIS MEDIA
REMOVAL OF IMPACTED CERUMEN
AS AN ADJUNCT TO SYSTEMIC ANTI-INFECTIVE THERAPY
CONTAGIOUS DISEASE EAR INVOLVEMENTS

FORMULA: Glycerol (DOHO) .....17.90 GRAMS
(Highest obtainable spec. grav.)
Antipyrine ..... 0.81 GRAMS
Benzocaine ..... 0.21 GRAMS

O-TOS-MO-SAN



for CHRONIC SUPPURATIVE OTITIS MEDIA
FURUNCULOSIS AND
AURAL DERMATOMYCOSIS

FORMULA: Urea ..... 2.0 GRAMS
Sulfathiazole ..... 1.6 GRAMS
Glycerol (DOHO) Base..16.4 GRAMS

RHINALGAN

Nasal Decongestant *WITHOUT* Circulatory or Respiratory Effect

for COMMON COLD · SINUS INFECTIONS · PRE AND POSTOPERATIVE NASAL SHRINKAGE · HAY FEVER ALLERGIC AND HYPERTROPHIC RHINITIS

FORMULA: Desoxyephedrine Saccharinate 0.50% w/v in an isotonic aqueous solution with 0.02% Laurylammonium saccharin. Flavored. pH 6.4.

Supplied in **THE DOHONY SPRAY-O-MIZER*** (Combination Spray and Dropper)
*TRADE MARK—PAT. PEND.
Also for Office and Hospital use in Pint bottles.

PLEASANT—EFFICIENT
NON-TOXIC—BACTERICIDAL

Scientific and Clinical Data sent on request

DOHO CHEMICAL CORP., 100 Varick St., New York 13, N. Y.

Also MALLON DIVISION—Makers of RECTALGAN

AN ADVANCE IN ANTIBACTERIAL THERAPY

ACCEPTED
COUNCIL ON PHARMACY AND CHEMISTRY
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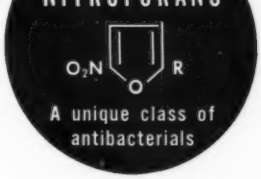
FURACIN
SOLUBLE DRESSING
N. N. R.
(BRAND OF NITROFURAZONE)
CONTAINS 0.2% NITROFURAZONE N. N. R. IN A WATER SOLUBLE BASE
CAUTION: TO BE DISPENSED ONLY BY OR ON THE PRESCRIPTION OF A PHYSICIAN
WARNING: THIS DRUG MAY CAUSE SENSITIZATION IF THIS OCCURS, ITS USE SHOULD BE DISCONTINUED
LITERATURE AVAILABLE TO PHYSICIANS ON REQUEST
AN ANTIBACTERIAL PREPARATION FOR TOPICAL APPLICATION
E·A·T·O·N Inc.
NORWICH, NEW YORK
ONE POUND, AVOIR.
453.6 GRAM

CHRONIC, INFECTED, CUTANEOUS **ULCERS...**

whether of hypostatic, decubital, ischemic, bacterial or diabetic origin, usually respond rapidly to topical Furacin therapy.* Of 81 such cases specifically mentioned in the literature, good results were obtained in 65. The infection, odor and discharge usually diminished promptly without delay of healing. Furacin® brand of nitrofurazone N.N.R. is available in 0.2 per cent concentration in water-miscible vehicles. It is indicated for topical application *in the prophylaxis or treatment of surface infections* of wounds, severe burns, cutaneous ulcers, pyodermas, skin grafts and bacterial otitis. *Literature on request.*

The NITROFURANS



A unique class of antibacterials

EATON LABORATORIES, INC., NORWICH, N. Y.

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FURACIN SOLUBLE DRESSING • FURACIN SOLUTION • FURACIN ANHYDROUS EAR SOLUTION

appetite must be controlled

"The greatest problem in preventive medicine in the United States today is obesity."[1] And today it is well-known that "*The only way to counteract obesity . . . is by a restriction of food intake.*"[2]

'Dexedrine' Sulfate controls appetite, making it easy for the patient to avoid overeating and thus to lose weight safely without the use (and risk) of such potentially dangerous drugs as thyroid. In weight reduction 'Dexedrine' "*is the drug of choice because of its effectiveness and the low incidence of undesirable side effects.*"[1]
Smith, Kline & French Laboratories • Philadelphia

Dexedrine* Sulfate tablets • elixir

A most effective drug for control of appetite in weight reduction

*T.M. Reg. U.S. Pat. Off. for dextro-amphetamine sulfate, S.K.F.

1. Walker, W.J.: Obesity as a Problem in Preventive Medicine, U.S. Armed Forces M.J. 1:393, 1950.
2. John, H.J.: Dietary Invalidism, Ann. Int. Med. 32:595, 1950.

they deserve the best..

Implicit in a happy healthy childhood is maximal nutrition—and one of the essential dietetic guideposts to vigorous adulthood is adequate vitamin C[1,2,9] (½-1 oz. for infants up to 1 year;[10,11] 4-8 oz. for older children).[5] Fortunately, most every youngster likes the taste of Florida orange juice and the "lift" its easily assimilable fruit sugars* provide.[6] It is well-tolerated and virtually non-allergenic.[3] And, under modern techniques of processing and storage—it is possible for citrus fruits and juices (whether fresh, canned or frozen) to *retain their ascorbic acid content,[5,8] and their pleasing flavor,[7] in very high degree and over long periods.*

FLORIDA CITRUS COMMISSION • LAKELAND, FLORIDA

Citrus fruits — among the richest known sources of Vitamin C — also contain vitamins A and B, readily assimilable natural fruit sugars, and other factors, such as iron, calcium, citrates and citric acid.

...plenty of citrus fruit

References

1. Clinical Nutrition: ed. by N. Jolliffe et al., Hoeber, 1950.
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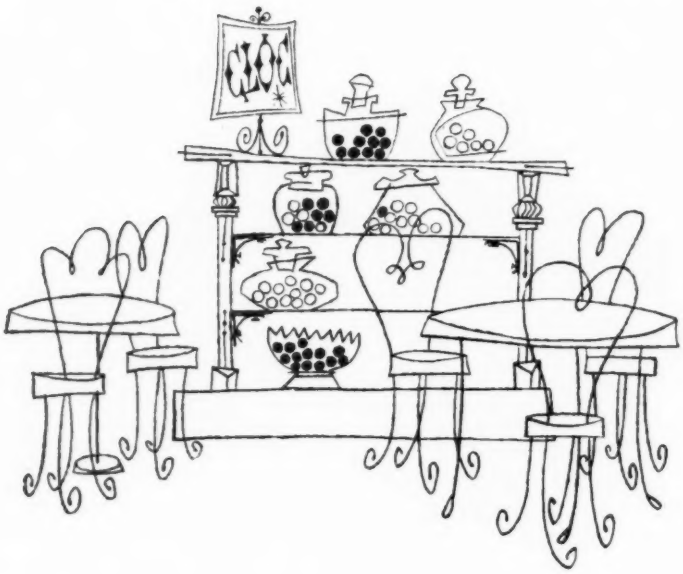
11. Stevenson, S. S.: J. Pediat., 31:616, 1947.

FLORIDA

Oranges • Grapefruit

Tangerines

tastes as good as CANDY



White's Cod Liver Oil Concentrate tablets

. . . provide vitamins A and D in easy-to-take tablets. Because of their pleasant flavor, most children prefer to chew them like candy. Yet the tablets are small enough to be easily swallowed, even by young children.

Each White's CLOC Tablet is equivalent in vitamin content* to one teaspoonful of cod liver oil and supplies 312 units of vitamin D, plus 3,120 units of vitamin A. White's Cod Liver Oil Concentrate Tablets are inexpensive and especially suited to maintaining antirachitic protection throughout the years of active growth.

WHITE LABORATORIES, INC.

Pharmaceutical Manufacturers, NEWARK 7, N. J.

*U.S.P. Minimum Standards.

a practical *step forward* in the therapy of rheumatic affections

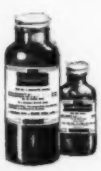
Pabalate usually provides better therapy for rheumatic affections than pure salicylate itself, through its mutually synergistic combination of para-aminobenzoic acid and salicylate.[1,2] Reports of authoritative clinical tests show a *higher* degree of pain relief... to *more* patients... on *lower* dosage... over *longer* periods... with *greater freedom* from adverse reactions.[3]

REFERENCES: 1. Dry, T. J. et al.: Proc. Staff Meetings Mayo Clin., 21:497, 1946. 2. Hoagland, R. J.: Am. J. Med., 9:272, 1950. 3. Smith, R. T.: J. Lancet, 70:192, 1950.

FORMULA: Each enteric-coated tablet or each teaspoonful of chocolate-flavored liquid contains 0.3 Gm. (5 gr.) sodium salicylate U.S.P., and 0.3 Gm. (5 gr.) para-aminobenzoic acid (as the sodium salt).

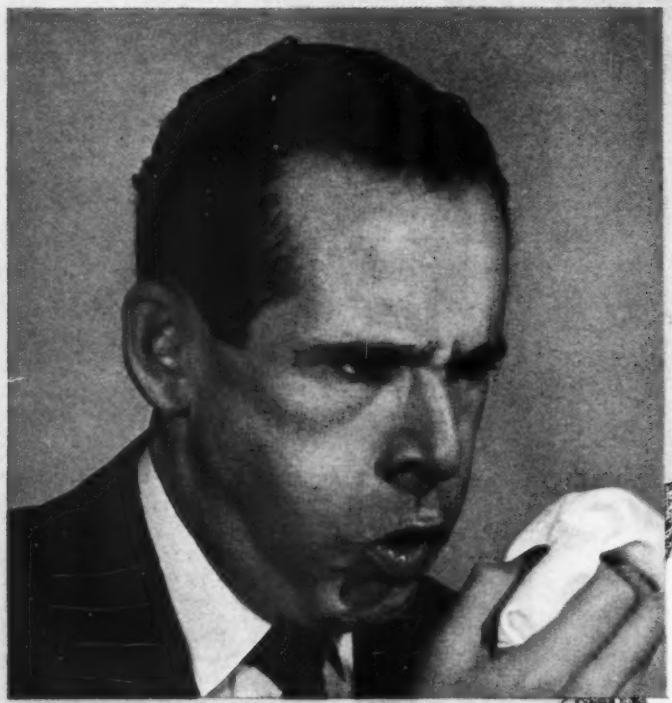
A. H. ROBINS CO., INC.
RICHMOND 20, VA.

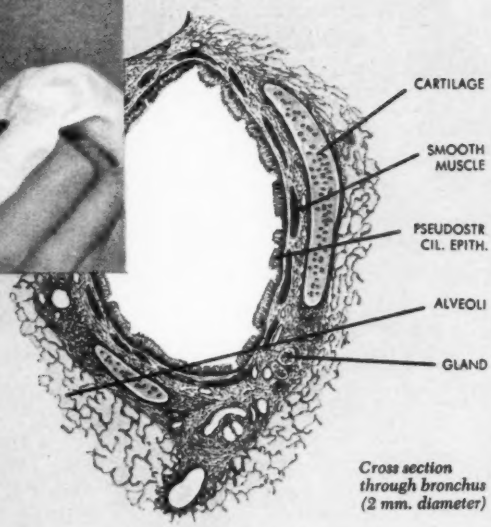
Robins **Pabalate®**



Seven Years' Research that opened a **New Era**

in Cough Therapy





Cross section through bronchus (2 mm. diameter)

The time encrusted *empirical* approach to cough therapy—with its "picture of confusion, contradiction and neglect"[2]—can now be replaced by sound, *rational* non-narcotic treatment, thanks to the pioneering studies of Boyd et al.,[1,3] demonstrating that glyceryl guaiacolate is the most powerful of expectorants commonly used. Robitussin—the antitussive-expectorant with specific drug action—provides glyceryl guaiacolate for increasing respiratory tract fluid, together with desoxyephedrine, for its bronchial-spasm-relieving[3] and its mood-improving actions—in an aromatic syrup that is highly patient-acceptable.

A. H. ROBINS CO., INC. • RICHMOND 20, VA.

Robitussin®

A. H. Robins

promotes useful cough... minimizes harmful cough

References:

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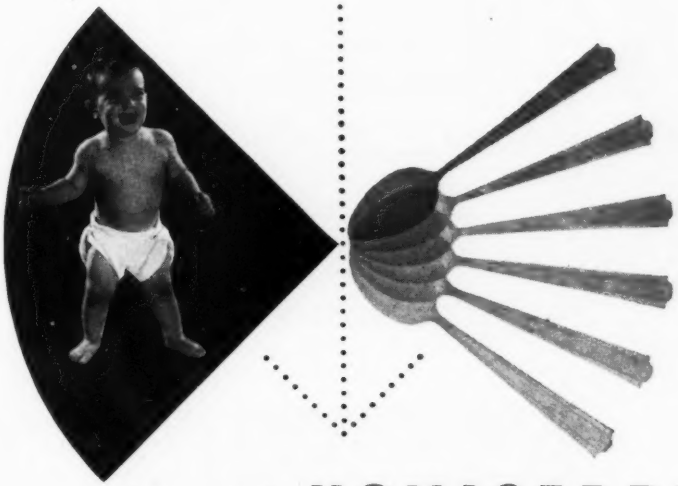

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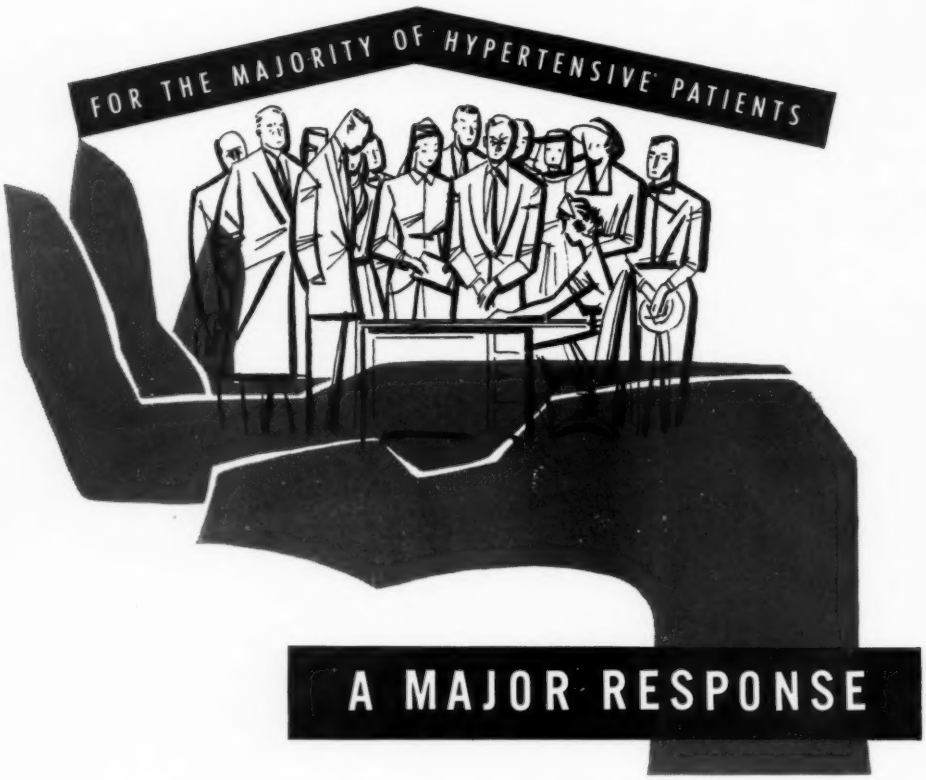

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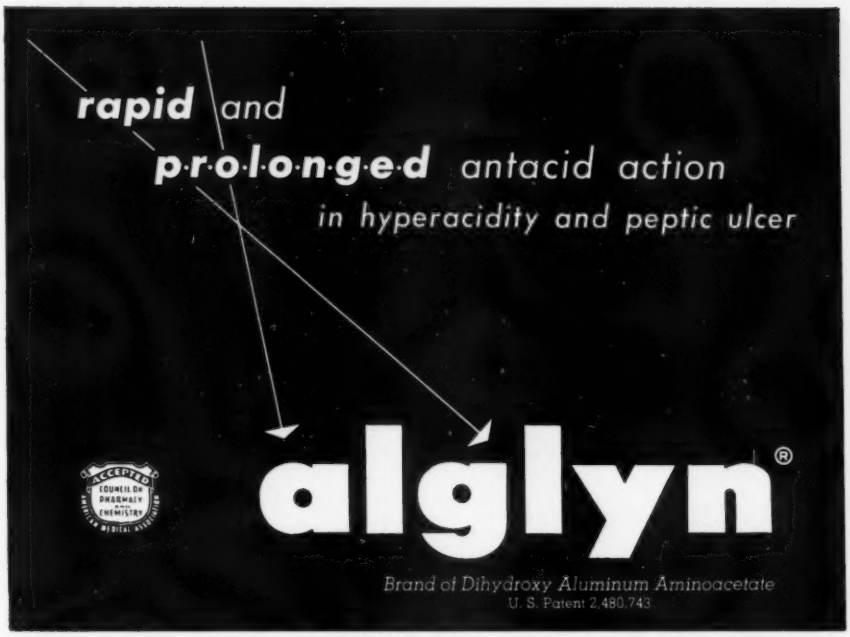

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References:

1. Hammerlund, E. Roy, and Rising, L. Wait, A Comparative Study of the Buffering Capacities of Various Commercially Available Gastric Antacids, J.A.Ph.A., Scientific Edition, 38: 586-588 (1949).
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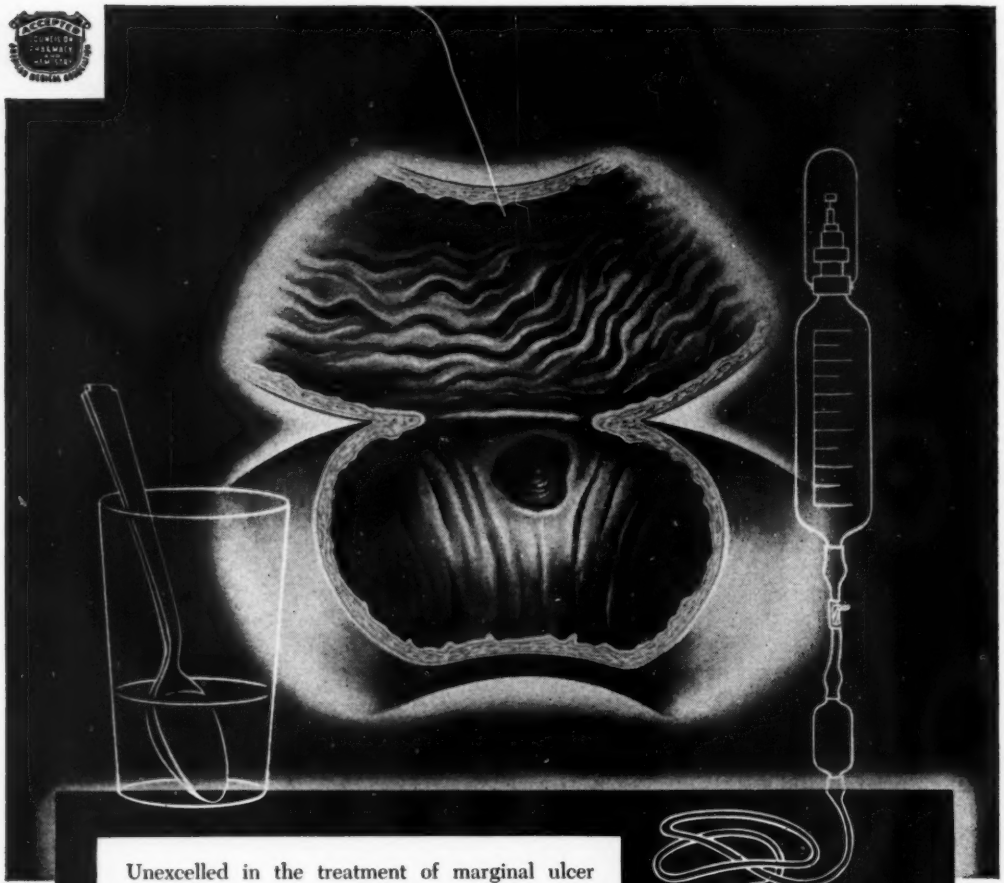

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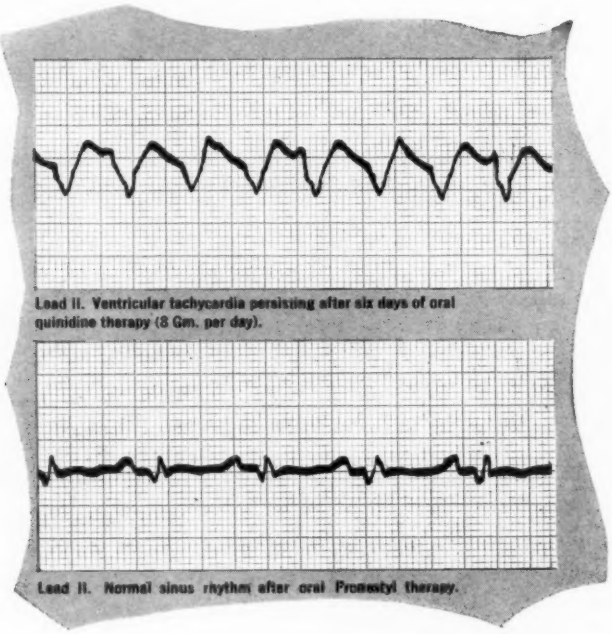

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b_1 NIACINAMIDE b_6

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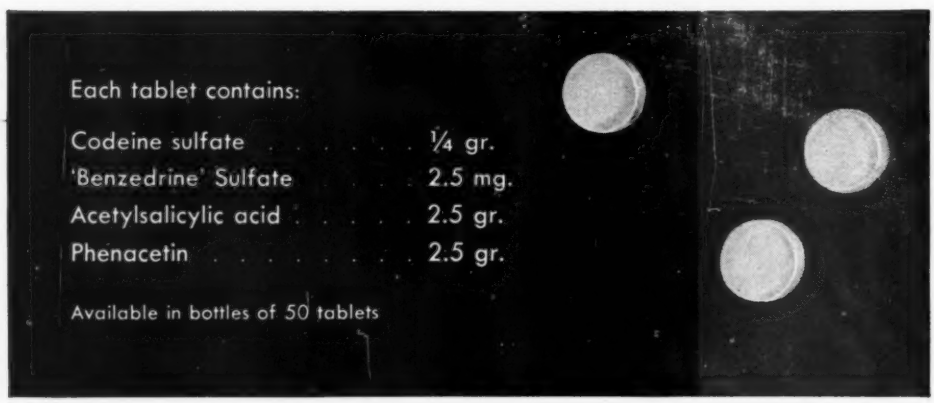
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1. Janney, J. C.: Medical Gynecology, ed. 2, Philadelphia, W. B. Saunders Company, 1950, p. 365

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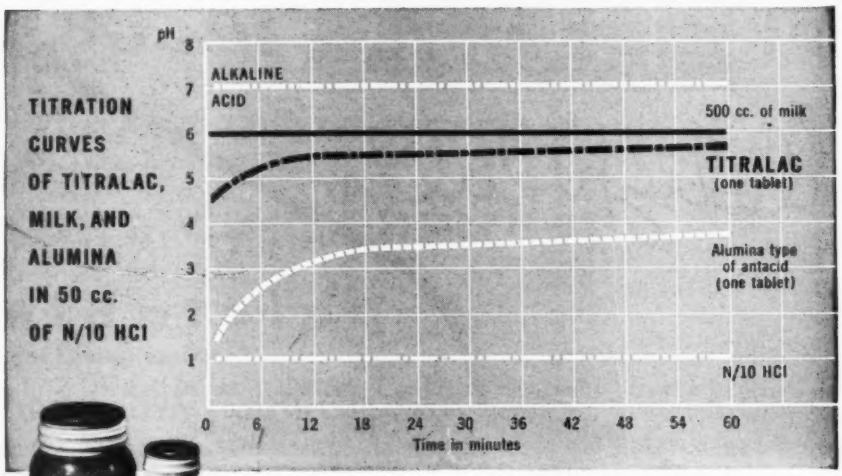

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REFERENCES

1. Rossett, N. E., and Flexner, J.: Ann. Int. Med. 18: 193 (1944). 2. Freezer, C. R. E.; Gibson, C. S., and Matthews, E.: Guy's Hosp. Reports 78: 191 (1928). 3. Aaron, A. H.; Lipp, W. F., and Milch, E.: J. A. M. A. 139: 514 (Feb. 19) 1949. 4. Kirsner, J. B., and Palmer, W. L.: Illinois M. J. 94: 357 (Dec.) 1948. 5. Kimball, S.: in Practice of Medicine (Tice). Hagerstown, Md., W. F. Prior Company, Inc., 1948; p. 210. 6. Special Article: M. Times 76: 10 (Jan.) 1948.

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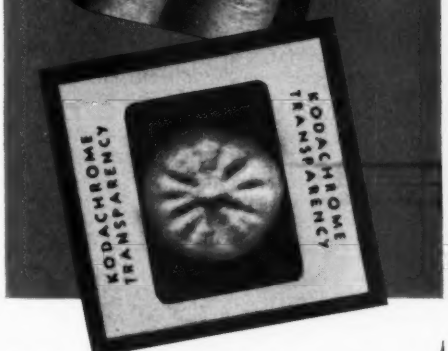

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Volume 44 MARCH 1951 Number 3

CATARACT EXTRACTION IN THE ONE-EYED PATIENT*

A STUDY OF SEVENTY-FIVE CONSECUTIVE CASES

By ALSTON CALLAHAN, M.D., F.A.C.S.†
Birmingham, Alabama

The assembly of these patients in a period of four years was possible because of a number of fortuitous circumstances. Many were referred by doctors throughout the South, particularly Dr. Charles A. Thigpen of Montgomery, Alabama, and Dr. Harvey Searcy of Tuscaloosa, Alabama. Others were collected from the rapidly expanding outpatient Eye Clinic (indigent) of the Medical College of Alabama, from which local patients were furnished hospitalization by Jefferson County, and patients from other Alabama counties were furnished hospitalization by the Alabama Sight Conservation Association. The cases are part of a larger series of 423 cataract extractions which were performed by the author between January 1947 and November 1950. The term "one-eyed" refers to the patient who has had one eye removed, or if retained, the vision in it is less than 10/400 with a nonremedial defect.

Cause of Loss of First Eye of This Series.—The classification of the causes are instructive and show that primary glaucoma, complications of cataract surgery and physical trauma are largely responsible (*Table 1*).

Preoperative Examination of the Eye.—If the nonseeing globe has been retained, it receives a careful study concerning complications which might affect the outcome of a cataract extraction performed on the better eye. If it is glaucomatous, the examiner must determine whether it is of the primary type or secondary to causes such as cataract extraction or chronic uveitis. Dystrophy of the cornea in the nonseeing globe, regardless of its cause, requires a meticulous study of the better eye to ascertain whether it is similarly involved.

The eye to be operated upon must be subjected to the closest scrutiny with the greatest emphasis on (1) the appearance of the posterior surface of the cornea, and (2) the condition of the macula. Many candidates for surgery have been declined because of evidences of early endothelial dystrophy, which, it was thought, would progress into stromal and epithelial dystrophy; a few such cases were operated upon in this series and the results are commented on later. It is believed that the most frequently neglected part of the preoperative examination by ophthalmic surgeons in general is the slit-lamp examination of the cornea. The penalty for overlooking a dystrophy is gradual reduction in vision despite excellent surgical technic.

In some nuclear and immature cataracts, it is possible to see the macula and if there are hemorrhagic, inflammatory, or degenerative changes of this area, cataract extraction is usually contraindicated. If the macular area cannot be seen,

CAUSE OF LOSS OF FIRST EYE OF SEVENTY-FIVE PATIENTS

Complications following cataract surgery	22
Primary glaucoma	22
Physical trauma	16
Macular degeneration	3
Chorioretinitis, central	2
Intra-ocular hemorrhage	2
Retinal detachment, idiopathic	1
Amblyopia exanopsia, severe	1
Optic atrophy after meningitis	1
Corneal degeneration from repeated ulcers	1
Cause unknown	4

Table 1

*Chairman's Address, Section on Ophthalmology and Otolaryngology, Southern Medical Association, Forty-Fourth Annual Meeting, St. Louis, Missouri, November 14-17, 1950.

*The author wishes to acknowledge his indebtedness to Dr. A. C. Hobbs, resident in ophthalmology, for his assistance in helping with the postoperative studies of the patients; Robert Leonard, eye cinephotographer, for making the movie of the cataract extraction; to Donald Palmer for the the charts which accompany this article; and to surgical nurses, Miss Sylvia Scozzaro and Miss Mary Ellis, and to Room Supervisor, Mrs. Virginia Covington, for their help with these patients.

†Professor of Ophthalmology, The Medical College of Alabama, Birmingham, Alabama.

Name and Age	4. OH 56 wm	5. GH 74 wf	6. LL 73 wm	7. WR 75 wf	8. WL 47 wm	9. AM 58 wf	10. PB 65 wm	11. HW 64 wm	12. MB 63 wf
General Condition				Hypertensive; cerebral hemorrhage recovered		Diabetes controlled with insulin and diet hypertension			Diabetes controlled with insulin and diet
Cause of Loss of First Eye or Function Thereof	Severe trauma left eye 1924; enucleated 4-11-47	Phthisis bulbi, cause unknown to patient	Severe trauma right eye 1892	Retinal hemorrhages, right eye; light perception only 1944	Severe trauma right eye with resultant phthisis bulbi	Cataract extraction right eye 1946 followed by intra-ocular hemorrhage; enucleation 1947	Intra-ocular foreign body, right eye enucleated	Extensive chorioretinitis since 1930 right eye	Cataract extraction right eye with atrophic eye; enucleation 8-6-48
Duration Cataract Second Eye	26 years right eye	2 years left eye	3 years left eye	2 years left eye	4½ years left eye	4 years left eye	25 years left eye	1 year left eye	3 years left eye
Findings of Second Eye Additional to Mature Senile Cataract	Surgery delayed three occasions because of hemolytic Staphylococcus aureus culture of lids					Surgery delayed because of hemolytic Staphylococcus aureus culture of lids	Traumatic cataract, dislocated lens		
Vision Second Eye at Surgery	Light projection	Light projection	20/200	Light projection	Light projection	Light projection	Light projection	20/200	Light projection
Operation	Intracapsular cataract extraction with basal iridectomy 8-29-47	Intracapsular cataract extraction with peripheral iridotomy 9-26-47	Intracapsular cataract extraction with peripheral iridotomy 9-26-47	Extracapsular cataract extraction with peripheral iridotomy 10-31-47	Division of posterior synechiae, basal iridectomy and intracapsular cataract extraction 11-14-47	Intracapsular cataract extraction with peripheral iridotomy 12-12-47	Intracapsular cataract extraction with iridectomy 12-22-47	Intracapsular cataract extraction with peripheral iridotomy; ½ cc. vitreous lost 3-12-48	Intracapsular cataract extraction with iridectomy 5-10-48
Significant Postoperative Events	Hyphemia 5th postoperative day; completely absorbed 10th postoperative day	Small anterior chamber hemorrhage third postoperative day			Hyphemia 4th postop. and 14th postop. day. Fibrinous exudate required one month to absorb	Hyphemia 4th postop. day; slight recurrence 10th postop. day		Hyphemia 4th postop. day; iris incarcerated in wound, not protruding through conjunctiva; chronic uveitis, chronic keratitis, corneal dystrophy	
Visual Results	7-12-50: 20/30 23 mm. Hg.	2-2-48: 20/25 20 mm. Hg.	7-19-50: 20/25 20 mm. Hg.	2-16-50: 20/20 16 mm. Hg.	7-5-50: 20/30 17 mm. Hg.	3-15-48: 20/30 9-15-50: Light projection only; marked retinal hemorrhages have occurred 20 mm. Hg.	7-12-50: 20/50 15 mm. Hg.	7-19-50: Light projection 20 mm. Hg.	6-22-49: 20/40 20 mm. Hg.

Table 2

Name and Age	13. JT 67 wm	14. IP 79 wf	15. BJ 68 wm	16. AM 70 wm	17. FS 66 wf	18. SJ 81 cf	19. SG 52 cf	20. EB 67 wm
General Condition		Arteriosclerotic heart disease					Diabetes controlled; latent syphilis treated	Mild senile emphysema
Cause of Loss of First Eye or Function Thereof	Severe trauma right eye 1930	Cataract extraction: two unsuccessful operations for secondary glaucoma 1947 right eye	Cataract extraction left eye: good vision for one month, then unexplained intra-ocular hemorrhage	Cataract extraction left eye 1906; postoperative infection	Macular degeneration; senile cortical cataract; poor vision since age 11, left eye	Absolute glaucoma, left eye. Cyclodiathermy 9-19-47	Cataract extraction left eye 1946; infection developed; no light perception	C-S trephine for chronic non-congestive glaucoma, left eye, May 1948
Duration Cataract Second Eye	3 years left eye	4 years left eye	7 years right eye	2 years right eye	4 years right eye	2 years right eye	2 years right eye	50 years right eye
Findings of Second Eye Additional to Mature Senile Cataract			Mature senile cataract centrally located beneath posterior capsule		Myopic at birth	C-S trephine 9-17-47; posterior synechiae; cataracta complicata	Traumatic cataract	Surgery delayed because of gram negative bacillus culture of lids
Vision Second Eye at Surgery	20/400	18/100	20/40 in dim light; 20/200 in bright light	20/100	20/200	Light projection	Light projection	Light projection
Operation	Intracapsular cataract extraction with peripheral iridotomy 5-14-48	Intracapsular cataract extraction with peripheral iridotomy 7-9-48	Intracapsular cataract extraction with peripheral iridotomy 7-23-48	Intracapsular cataract extraction with peripheral iridotomy 8-6-48	Intracapsular cataract extraction with peripheral iridotomy 8-23-48	Synechiae freed, intracapsular cataract extraction, lateral approach 8-30-48	Intracapsular cataract extraction with peripheral iridotomy; vitreous bead lost 9-5-48	Intracapsular cataract extraction with peripheral iridotomy 9-10-48
Significant Postoperative Events				Hyphemia 6th postop. day; Vitreous hemorrhage 15 days later; absorbed slowly over period of six months		Severe iritis; atropine used; pupillary aperture moved up and nasally; occluded pupil; Optical iridectomy 9-25-50; Advanced glaucomatous atrophy	Atropine sensitivity	
Visual Results	12-14-49: 20/25 17 mm. Hg.	1-23-50: 20/30 23 mm. Hg.	1-9-50: 20/20 20 mm. Hg.	7-5-50: 20/25 15 mm. Hg.	4-21-50: 20/30 14 mm. Hg.	10-26-50: H. M. 12" 20 mm. Hg.	7-19-50: 20/20 26 mm. Hg.	7-26-50: 20/20 22 mm. Hg.

Table 2, continued

the two-point light test and the Bielchowsky after-image test in the one eye should be made. They are not completely reliable, but may offer some prognostic information.

Preoperative Preparation.—These patients are admitted to the hospital 48 hours prior to operation. A culture is taken of the lid margins and of the conjunctivae upon admission to the hospital. The blood agar and milk agar plates of these cultures are read by a bacteriologist colleague shortly before the operation is to be performed. Milk agar plates are used to facilitate identification of Staphylococcus aureus. Colonies of Staphylococcus albus and diphtheroids are almost invariably found. If organisms usually considered to be pathogenic are found, the operation is delayed, the indicated treatment begun, and after a few days another culture is repeated. Not until a culture negative for these pathogens is obtained is surgery performed. In nine of the cases, the operation was delayed. In two of these, the first eye had been lost by an infection following cataract extraction.

Gram negative bacilli, especially Bacillus pyocyaneus, are quite resistant and their eradication sometimes requires several weeks of aureomycin and streptomycin. Hemolytic Staphylococcus aureus rarely requires treatment more than a few days for its removal.

For cleansing of the lids we prefer the use of one of the coconut oil derivatives, to the application of tincture of green soap. Because of its bacteriostatic qualities, we scrub the patients' eyelids 48 hours preoperatively, then 24 hours preoperatively and then again immediately preceding surgery.

On the preoperative day, the lacrymal passageway is irrigated with penicillin (sol. 50,000 units per cc.) and this is followed by irrigation of the conjunctival sac with an aqueous antiseptic (an alkyl dimethyl benzyl ammonium chloride mixture). Prophylactic administration of penicillin (300,000 units) is given parenterally on the day before, the day of, and the day after operation; it is discontinued when there is no longer the possibility of a surgical intra-ocular infection. Penicillin solution drops (50,000 units per cc.) are instilled into both eyes in the afternoon and early evening before operation. In the eye to be operated upon, homatropine (5 per cent) in zephiran chloride® aqueous (1:5,000) is instilled twice on the night before operation. Finally, at bedtime a 25 per cent silver vitellin preparation is instilled into both eyes, and after a few moments penicillin ointment (1,000 units per gram) is inserted inside the eyelids of both eyes. A sterile dressing is applied over the eyelids of the eye upon which the operation is to be performed.

Sedation is obtained by giving pentobarbital sodium grains 1½ the night before operation, and repeating it the next morning two hours before the operation. An hour before operation, demerol® mg. 50 is given intramuscularly.

On the morning of operation, homatropine (5 per cent) is again instilled into the eye to be operated upon and this is followed thirty minutes before operation by the instillation of several drops of neosynephrin hydrochloride® (sol. 10 per cent). Before the incision is made, tetracaine hydrochloride (0.5 per cent) is instilled every few moments for four or five times.

The surgical field is scrubbed with antiseptics, irrigated with sterile normal saline, dried and zephiran chloride® tincture (1:1,000) is applied to the surface of the field with cotton-tipped applicators. Special attention is given to the eyebrows and cilia. The lids are then draped with sterile towels and an eye sheet.

Anesthesia. — Intravenous sodium ethyl thiobarbiturate (pentothal®) is used when the patient is very apprehensive or highly nervous, but in only 9 of this series of 75 was this employed; local anesthesia was used for the remainder.

Local anesthesia of the eye was obtained by the retrobulbar injection of procaine and epinephrine. After 57 of the series had been operated upon, hyaluronidase became available. Its use lowers the intra-ocular pressure and makes less likely the loss of vitreous. In several cases, fluid vitreous presented in the anterior chamber as an uneventful corneal section was made, but it did not escape despite the maneuvers necessary to remove the lens. Hyaluronidase deserves a major part of the credit for the low percentage of vitreous loss in this series.

Akinesia was secured by the van Lint technic of injecting procaine with epinephrine into the lids. In the last 19 cases hyaluronidase was added to this mixture with an increase in the rapidity, depth and duration of the akinesia.

Technic of Extraction.—The technic consists of making a limbal-based conjunctival flap about 2 mm. in width; McLean sutures are preplaced through a limbal groove; the zonular membrane is separated with a "Budapest" lens expressor; a peripheral iridotomy is done above; the lens

is grasped with the Bell eresiphake; the sectioned cornea is apposed to the sclera as the lens is tumbled; the McLean sutures are tied and a continuous untied suture is inserted to close the conjunctival incision.*[1]

A few points in the improvement of technic during the progress of this series deserves special mention. Chief of these is the use of the Bell eresiphake. When this series was begun, the Arruga forceps on a Castroviejo cross-action handle was used to grasp the lens. This ruptured fewer capsules and traumatized the cornea the least of the instruments then available. The Bell eresiphake has been used to remove the last 17 cases with rupture of the capsule in only 3. Slipping of the eresiphake rarely occurred, but when it did, vitreous was not withdrawn. Since the "working volume" space is small (0.25 cc.) in this type of eresiphake, one does not fear the aspiration of vitreous which can occur with a large suction apparatus.

A third feature in the improvement of technic is the separation of the zonular membrane from the lens capsule upon completion of section instead of immediately prior to the lens extraction. This "reverse order" prepares the lens for immediate removal before the iris can contract either from the iridotomy or from irrigation of the anterior chamber if bleeding from the iridotomy occurs.

ANALYSIS OF CASE REPORTS

The essential facts of the seventy-five cases were assembled on one chart. Even though this was made as brief as possible, it was deemed impossible to publish it in full. A typical section has been selected from the chart to indicate its general form (*Table 2*).

Visual Results. — Despite the over-all poor prognosis in such a series of combined eye diseases, 70 per cent obtained vision of 20/40 or better (*Table 3*).

The horizontal column pertaining to postoperative complications on the second eye shows relatively few untoward events, and consideration of each case shows that in most of the 30 per cent, the reduction in vision was due to preexisting diseases other than the cataract.

Complications of Cataract Extraction on the First Eye (Table 4).—We were able to prevent the same complication from developing in the second eye that had occurred in the first eye in all types except in corneal dystrophy.

Retinal Detachment Secondary to Cataract Extraction (Table 5).—The three patients who had a retinal detachment after cataract extraction in the first eye have been followed at frequent intervals. In two of these patients, senile cystic degeneration was discernible bilaterally before operation. Intracapsular cataract extrac-

VISUAL RESULTS

20/20	20	70 per cent
20/25	15	
20/30	12	
20/40	6	
20/50	4	14 per cent
20/60	2	
20/70	2	
20/80	2	
20/200	2	15 per cent
20/400	1	
5/200	1	
F. C. 3′	1	
F. C. 12″	1	
H. M. 12″	3	
Light projection	2	
No light projection	1	1 per cent

Table 3

LOSS OF FIRST EYE FROM CATARACT EXTRACTION COMPLICATIONS

Cataract extraction followed by:		Number with same complication in second eye
Operative infection	6	0
Secondary glaucoma, uncontrollable (from causes such as incarceration of iris or incomplete removal of cortex)	4	0
Retinal detachment	3	0
Phthisis bulbi (vitreous loss, uveitis)	3	0
Intra-ocular hemorrhage	2	0
Hemorrhagic glaucoma and corneal dystrophy	2	2
Corneal dystrophy	1	0
Epithelial downgrowth	1	0

Table 4

*A color motion picture, "Cataract Extraction in the One-Eyed Patient," is available on loan from the Department of Ophthalmology, Medical College of Alabama.

RETINAL DETACHMENT

Name and Age	Gen. Cond.	Cause of Loss of First Eye	Duration Cataract	Condition 2nd Eye	Vision 2nd Eye	Operation	Postop. Course	Visual Results
JM wm 52 *Case 40*		Old chorioretinitis with retinal degeneration; retinal detachment following cataract extraction right eye 1935	5 years left eye	Old chorioretinitis with retinal degeneration; extreme myopia; fluid vitreous with many opacities	12/200 projection poor in some quadrants	Extracapsular cataract with iridectomy 4-25-49	Ocular reaction from cortical remnants severe third postop. day	6-1-49: 20/50 6-23-49: Complete detachment of retina unsuccessful re-attachment; 7-19-50: No light projection
GB wm 55 *Case 54*		Old chorioretinitis with retinal degeneration; retinal detachment following cataract extraction right eye June 1949	10 years left eye	Old chorioretinitis with retinal degeneration; surface cyclodiathermy prior to cataract surgery 9-7-49	Light projection	Extracapsular cataract extraction with basal iridectomy 11-21-49		9-26-50: 20/20 14 mm. Hg.
WOC wm 46 *Case 62*		Intracapsular cataract extraction left eye July 1949 followed by severe blow 9th postop. day and retinal detachment; re-attachment unsuccessful	1 year right eye		20/400	Extracapsular cataract extraction with iridotomy 4-7-50		10-31-50: 20/20 20 mm. Hg.

Table 5

CORNEAL DYSTROPHY

Name and Age	Gen. Cond.	Cause of Loss of First Eye	Duration Cataract	Condition 2nd Eye	Vision 2nd Eye	Operation	Postop. Course	Visual Results
JA wf 71 *Case 3*	Arthritis	5 operations for chronic non-congestive glaucoma and cataract left eye; chronic iridocyclitis; advanced corneal dystrophy	2 years right eye	Iridectomy 1946; endothelial dystrophy present	Light projection	Extracapsular cataract extraction, inferior approach with iridectomy 7-19-47	Slow absorption cortical remnants; corneal dystrophy slowly developed over 3 years	9-15-47: 20/200 9-7-50: Light projection only. 26 mm. Hg.
EM wf 73 *Case 29*		Hemorrhagic glaucoma and corneal dystrophy, right eye following cataract extraction 1935	10 years left eye	Marked endothelial pigmentation	Hand movements	Intracapsular cataract extraction with peripheral iridotomy 12-17-48	Iris and vitreous hemorrhage, secondary glaucoma corneal dystrophy	10-31-50: F. C. 3' 23 mm. Hg. with floropryl
WW wf 67 *Case 32*		Severe trauma, right eye; corneal scarring and dystrophy	4 mos. right eye		20/200	Intracapsular cataract extraction with peripheral iridotomy 1-28-49	Vision 6 weeks later 20/80; corneal dystrophy developed to severe form	4-15-50: 4/200 19 mm. Hg.
JS cm 58 *Case 67*		Corneal dystrophy following cataract extraction, right eye 9-2-49	2 years left eye	Corneal scarring inferior portion with dystrophy	20/300	Intracapsular cataract extraction inferior approach through dystrophic area with peripheral iridotomy 6-7-50		8-4-50: 20/25 18 mm.
EB wf 60 *Case 68*	Arteriosclerotic, diabetic, mild	Cataract extraction left eye 1949; postoperative hemorrhage, secondary glaucoma and corneal dystrophy	1 year right eye	Possible diabetic retinopathy	Light projection	Intracapsular cataract extraction with peripheral iridotomy 6-16-50		7-19-50: 20/40-2 23 mm.

Table 6

tion on one eye of each of these had been done elsewhere. In one of these (Case 40), I had performed an extracapsular cataract extraction so that the posterior capsule of the lens would hold the vitreous in place. At operation no difficulties were presented. However, six weeks following the operation, an uneventful recovery having progressed to that date, detachment occurred in this eye upon which I had operated, and progressed to blindness despite two surgical attempts at reattachment. In the other of these two (Case 54), a month prior to cataract extraction, I applied surface diathermy to the sclera at the ora serrata, completely encircling the eye. An extracapsular cataract extraction was performed a month later and the patient has been followed for a year. No detachment has occurred and the vision remains 20/20. In the third case (Case 62), the retinal detachment in the first eye followed a severe blow to the eye on the ninth day after intracapsular cataract extraction. An extracapsular cataract extraction was performed upon the second eye which has retained 20/20 vision with full field.

Personal Experiences with the Loss of First Eye.—Of the 22 cases in which the first eye was lost by complications following cataract extraction, two were patients upon whom I had performed the first cataract extraction. Twenty were done by ophthalmologists elsewhere. One of the operative infection group was a case of mine, and it was necessary for me to enucleate this eye; my gratification in removing the cataract from the second eye with the return of 20/20 vision to the patient is understandable. My other loss occurred in a patient with uncontrollable glaucoma secondary to the cataract extraction after incarceration of the iris pillars in the wound and unexplained severe uveitis. At the cataract extraction upon her second eye, fluid vitreous filled the anterior chamber immediately upon the completion of an uncomplicated corneal section. However, the cataract was removed intracapsularly, a peripheral iridotomy was performed, no iris incarceration in the corneal section occurred and the patient's corrected vision in this eye, one year after surgery, was 20/30.[2]

A third patient of understandable interest to us was one whose lenses, hitherto clear, developed cataracts within four months after a corneoscleral trephine for glaucoma was performed on each eye by a member of our resident staff. One eye was lost, but corrected 20/20 vision with full field was retained and the tension finally controlled, although three antiglaucoma operations were required after the extraction.

Patients in Whom Glaucoma Was Present in One or Both Eyes.—In 22 patients the first eye was lost from glaucoma, and in 19 of these glaucoma involved the second eye also. Seventeen of the 19 had antiglaucoma operations on the second eye before cataract extraction became necessary, and the other two were receiving miotics. The cataracts were removed from 16 of these through a lateral or inferior limbal route and in the seventeenth, through a corneal section through the trephine in a hypotensive eye.

The findings in and results from these cases merit a forthcoming report.

Corneal Dystrophy (Table 6).—In five patients, the loss of vision in the first eye was from corneal dystrophy. In four of these a cataract extraction had been performed and the other patient sustained severe ocular trauma in childhood.

The complete failure of the cataract operation on the second eye in three of the five cases points out the poor surgical prognosis in such cases. A possible explanation of one of the successes (Case 67) is that the incision was made below, where the dystrophy was more extensive. Reaction to the incision did not extend beyond the dystrophic area into the pupillary zone. In the first eye (right) it had been placed above and dystrophic changes had developed and had spread into the center of the cornea (*Fig. 1*). The mechanism of the other success (Case 68) was that the first eye had been lost by a postoperative hemorrhage, then secondary glaucoma and finally corneal dystrophy, and in the second eye no hemorrhage occurred. One of the failures (Case 29), however, had the same course of events in the first eye and despite all prophylactic measures, the second met the same fate.

Another of the failures (Case 3) shows that if a cataract develops in an eye which already has primary glaucoma and corneal dystrophy, the cataract operation is almost certain to upset whatever control there is of the glaucoma, and to stimulate the advance of the dystrophy. This is emphasized by the fact that both of this patient's eyes followed the same inevitable course.

Another failure (Case 32) demonstrates that corneal dystrophy following severe trauma in one eye may be present in an incipient state in the second eye, and be activated by a cataract operation.

Though this corneal dystrophy series is small, it emphasizes the poor prognosis existing in all dystrophic cases.

Unpredictable Results in Hypertension and Diabetes.—A selection of five such cases from the series (*Table 7*) discloses that in none of the patients with these conditions is it possible to predict the amount of vision that will be obtained. For example, a patient (Case 7) had recovered from a cerebral hemorrhage, and extensive retinal hemorrhages had occurred in the first eye, but two and a half years after the operation on the second eye, good vision in it was still retained. Yet, a second patient (Case 41) with an apparently equal prognosis obtained only 15/400 vision because of macular hemorrhages and has since died. In a third (Case 70), cortical atrophy developed from sclerosis of the cerebral vessels, mitigating the good ocular result.

Special preoperative care is given hypertensive patients by admitting them to the hospital for a week or ten days prior to operation and having an internist colleague sedate them and put them in the best possible condition. For the want of better drugs, vitamin K (5 mg.), vitamin C (100 mg.) and rutin (50 mg.) are administered three times a day by mouth hoping to decrease the danger of operative and postoperative bleeding.

It is equally impossible to predict the results in a diabetic, though we decline to operate upon patients with long standing diabetes if central aneurysmal dilatations have developed. If this finding is not present, and the patient is well controlled and cooperative, we undertake the extraction with the visual prognosis very guarded. One (Case 9) of the series obtained 20/30 vision three months after the operation but two and one-half years later had lost most of the useful vision; another (Case 12) has retained good vision for more than a year after the operation.

SIGNIFICANT FINDINGS

Many significant points have been disclosed by following the progress of the patients in this group. A few of the case reports may be mentioned to illustrate considerations that must not be overlooked.

(1) The "round pupil" extraction with a peripheral iridotomy and two corneoscleral sutures is much less likely to have postoperative complications of iris incarceration and prolapse, fol-

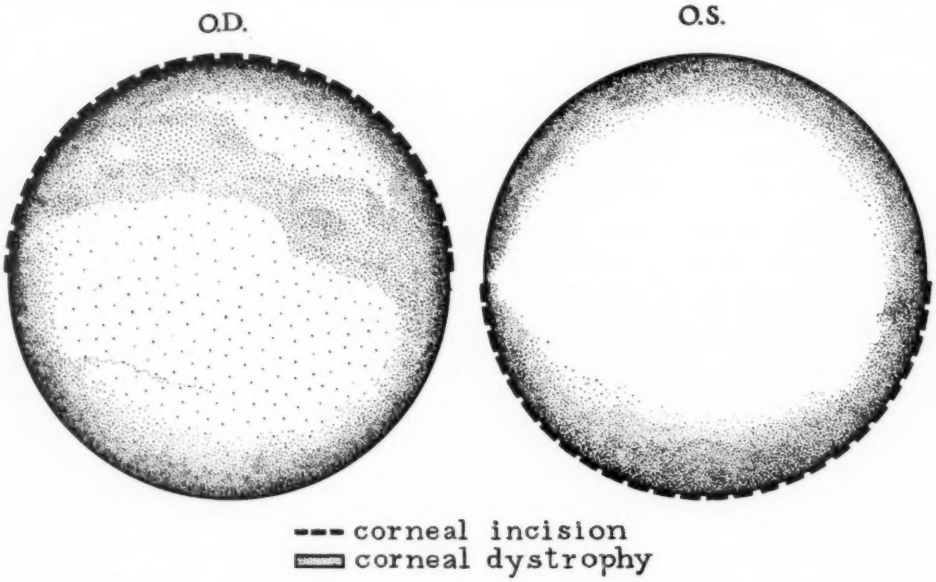

Fig. 1

Diagram of bilateral corneal dystrophy and corneal sections. A year previously the right eye had been operated upon, the section being made in the usual manner, in the upper part of the cornea. Though previously clear, the cornea became dystrophic, and this process extended down over the pupillary zone, reducing the corrected vision to 20/400 within one year.

In the left eye, dystrophic change was noted preoperatively and it extended further from the limbus below than above. Believing that the dystrophy would be less likely to extend where it is already more extensive, the lower limbus was selected for the corneal section. Six months postoperatively, the corrected left vision remained at 20/40 and apparently will continue.

lowed by secondary glaucoma and eventual loss of the eye. Complications may occur, but in the case reports the "complications" column shows no iris prolapse and relatively few untoward postoperative events. Patient 14 is typical of several in the series whose series of events resulting in the loss of the first eye began with an operative iridectomy and postoperative incarceration of the pillars; but good vision was obtained for the second eye with the technic described.

(2) The presence of macular degeneration in the first eye does not necessarily mean that it has developed in the second eye. Patient 17 obtained and has retained vision of 20/30 after cataract extraction in the second eye, although the first was reduced to vision of 20/400 from macular degeneration.

(3) Vitreous hemorrhage occurring postoperatively gives a grave, but not necessarily negative prognosis for vision. Patient 16 developed a vitreous hemorrhage after operation and the vision two weeks after the operation was limited to light projection. Potassium iodide was prescribed orally and after six months the vision had improved to 20/25.

(4) The longest period of time a patient's vision had been reduced to light projection in this series was 26 years and the traumatic cataract was removed without difficulty (Case 4).

(5) Although vitreous loss is likely to occur in the removal of a dislocated lens, the use of the Bell eresiphake, forceps and hyaluronidase makes it often possible to avoid this (Case 10).

SUMMARY

The findings from a study of 75 one-eyed individuals, from each of whom a cataract was extracted, are presented. The three major causes of the loss of the first eye were complications following cataract extraction, primary glaucoma and severe trauma. Critical points of the preoperative examination, the preparation of the patient and the surgical technic are described.

The visual results show that an acuity of 20/40 or better was achieved in 70 per cent of the patients and that as a rule, the complications following cataract extraction in the first eye could be avoided in the second, cases of corneal dystrophy being the exception. Information of general interest in cataract extraction is fur-

UNPREDICTABLE RESULTS IN HYPERTENSION AND DIABETES

Name and Age	Gen. Cond.	Cause of Loss of First Eye	Duration Cataract	Condition 2nd Eye	Vision 2nd Eye	Operation	Postop. Course	Visual Results
WB wf 73 *Case 7*	Hypertensive; cerebral hemorrhage recovered	Retinal hemorrhages; right eye, light perception only 1944	2 years left eye		Light projection	Extracapsular cataract extraction with peripheral iridotomy 10-31-47		2-16-50: 20/20 16 mm.
FP wf 74 *Case 41*	HCVD 200/105	Cataracta brunescens; light proj. temporal field, right eye. 42.5 mm. Hg.	1 year left eye	Tension reduced preoperatively with miotics 58 to 27 mm.	Light projection	Intracapsular cataract extraction combined with trephine and sclerectomy 5-9-49	Anterior chamber lost 7th postop. day but recovered	7-11-49 15/400; 14 mm. Multiple retinal hemorrhages surrounding macula. Died.
MM cf 82 *Case 70*	HCVD arteriosclerotic	Cataract extraction 4-17-50; postop. infection; evisceration 4-20-50	4 years left eye	Hypermature cataract; positive pyocyaneous cultures; treated 3 months. Positive at surgery	Light projection	Intracapsular cataract extraction with peripheral iridotomy 8-25-50		10-31-50: 20/200+ (cerebral atrophy)
AM wf 58 *Case 9*	Diabetes controlled by insulin and diet; essential hypertension	Cataract extraction right eye 1946 with intraocular hemorrhage; enucleated 1947	4 years left eye	Surgery delayed for hemolytic Staphylococcus aureus culture of lids	Light projection	Intracapsular cataract extraction with peripheral iridotomy 12-12-47	Hyphemia 4th and 10th postop. day	3-15-48: 20/30 9-15-50: Light projection only marked retinal hemorrhages
MB wf 63 *Case 12*	Diabetes controlled by insulin and diet	Cataract extraction right eye 1948 with resulting atrophic eye; enucleated 1948	3 years left eye		Light projection	Intracapsular cataract extraction with iridectomy 5-10-48		6-22-49: 20/40 20 mm.

Table 7

nished by many of the experiences with complications, such as retinal detachment, glaucoma, and hypertensive and diabetic retinitis.

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THE SADDLE NOSE*

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Disease, injury and congenital anomalies may cause flattening or saddling of the nasal arch. Depression of the nasal bridge produces a deformity which frequently results in worry and anxiety in the patient. It is usually not too difficult to correct such deformities. Only in recent years has the average rhinologist attempted to repair the saddle nose, as his chief aim had been to prevent this deformity, and in this he is not always successful. The literature in the past decade has numerous articles dealing with the anatomy and physiology of the nose, and any attempt to correct defects without this knowledge invites disappointment.

Etiology.—The saddle nose can be the result of trauma, infection, operation, malignancy, or it may be congenital.

The traumatic saddle nose may be due to injury of the nasal bones, the nasal cartilages, the nasal septum, or a combination of these. Trauma may produce a hematoma of the septum which may result in a sagging of the dorsum quite a while after injury.

The cases caused by infection are not so frequent now as in past years. In previous generations a number of saddle noses due to syphilis were seen, but at the present time they are somewhat rare. Possibly the most frequent infection causing the condition is abscess of the septum, and again these cases are on the decline, due to better treatment and to the use of antibiotics.

There are depressed dorsums that occur at operation. They may be due to very weak or atrophic upper lateral cartilages, because of faulty structure in this region; or to unnecessary roughness on the part of the surgeon.

The saddle nose or sagging dorsum seen several weeks after operation is practically always the end result of scar tissue pull. Quite a few rhinologists have encountered them, especially if they have done complete septum operations.

Some cases of saddling are congenital and others are due to malignancy. These are mentioned for completeness in classification.

Symptoms. — Objectively the symptoms are both objective and subjective. The cosmetic effect is important.

The subjective symptoms in practically all cases include varying degrees of difficulty in nasal respiration. The improvement of this complaint following corrective surgery is very gratifying to both the patient and the doctor.

Pathology. — The pathologic conditions are varied. They may be found in the bony parts, in the cartilaginous parts, or in both. The most frequent saddling seen by rhinologists is in the cartilaginous part of the dorsum.

In the cases following trauma, which have not had previous septum surgery, there is practically always obstruction due to a fracture or dislocation of the component parts of the septum. There are other cases following an hematoma or abscess of the septum where nothing but fibrous tissue is found between the septal membranes. The saddle nose seen several weeks after surgery, if a submucous resection was done rather than a reconstruction, presents a somewhat flabby or movable septal membrane with a backward and downward pull of the upper lateral cartilages.

Treatment.—I shall not attempt to review the literature but instead discuss several of the better known, and in my opinion, usable methods and materials (or grafts) that any rhinologist with adequate rhinoplastic training can safely use.

It is superfluous to say that the only correction for the saddle nose is surgery. In most cases some type of graft will be required. The grafts most commonly used include cancellous bone, costal cartilage, septal cartilage, auricular cartilage, or some type of plastic. The technic of procuring these grafts is common knowledge.

There are patients with slight saddling in which a typical rhinoplasty and shortening of the nose will take care of the defect. It is possible to correct some cases by freeing the upper lateral cartilages from the septum and suturing them across the dorsum. There are other situations slightly more extreme in which only a piece of

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septal cartilage will be needed to give the desired result. I have several cases of fractured septums, with some saddling, that were seen soon after the accident; and as some of these could not be reduced by manipulation, they were reduced by an open operation. Following the reconstruction of the septum a space was created over the dorsum from the upper part of the septal incision, and a graft of sufficient size was introduced (*Fig. 1*). This has been very satisfactory, and in most cases the cartilage used was obtained from the septum's being operated upon. This same procedure may be carried out on individuals with deviated septums or sagging dorsums of long standing.

For the more extreme cases, cancellous bone, rib cartilage, or some plastic will have to be used. When these are utilized it is well to have a cast of the approximate size and shape of the graft required, as this will save time later in shaping the insert. The cancellous bone graft seems to be by far the best and takes better if the nasal bones are roughened or cut before it is put in place; and in some circumstances a bilateral osteotomy and infracture should be done to obtain a good result. Rib cartilage grafts have been used for a long time and we may insert either autogenous or isograft. The plastic that I have used is polyethylene, but none of this material has been in place long enough to make a positive statement about its effects. Acrylic and tantalum have been utilized by others with varying results.

The technic for making the bed for the larger grafts depends upon how much other surgery has to be done in making the correction. If only a graft is needed the pyramid may be uncovered with an incision from one vestibule, and the space uncovered should be enough so that the graft will not fit so tightly as to cause any pressure necrosis. Most of the time the graft can be held in place satisfactorily with an adhesive splint dressing; however, some surgeons have anchored the grafts with sutures through the skin. Scarring is negligible. If an extensive rhinoplasty or septum surgery with lobule surgery is done, then we have created a larger space in which to place the graft. Here again the graft may or may not be anchored.

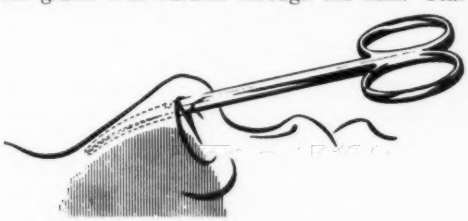

Fig. 1
Creating pocket between skin and cartilage vault through original septum incision for "dorsal" implants. (Courtesy Dr. M. H. Cottle)

Case 1.—A 13-year-old white boy had been hit on the nose by a baseball at 8 years of age, and had had difficulty in breathing since the accident. Externally there was a slight depression in the middle third of the nose, and the lobule was slightly to the right of the midline. Internally the caudal end of the septum was dislocated to the left, and the right nasal cavity was completely obstructed by the dislocation. Under local anesthesia an incision was made over the caudal end of the septum, and the mucous membrane freed on both sides with difficulty, due to dense adhesions. All of the deviation was removed, and the septum repaired by re-inserting small pieces of bone and cartilage between the septal flaps. A slightly larger piece of cartilage was sutured into the membranous septum. A pocket was made between the upper lateral cartilages and skin through the upper end of the septal incision, and a piece of septal cartilage inserted into this region to correct the sagging dorsum. The original incision was closed with two U sutures. This repair gave him ample breathing space, and corrected the sagging dorsum and displaced lobule.

Case 2.—A 13-year-old boy received a blow on his nose at the age of 3, and had been unable to breathe satisfactorily since. He was told to wait until he was older before having it repaired. Externally, the middle one-third of the nose was somewhat flat and depressed, and the lobule to the right of the midline. Internally he had a deviated septum in an S-shape, causing almost complete obstruction anteriorly on the left and about

Fig. 2, Case 1

Fig. 3, Case 2

the middle third on the right. Under local anesthesia the pyramid was uncovered. The septum operation was then performed, with nothing but fibrous tissue being encountered between the septal membranes until the bony septum was reached. The septum was repaired with pickled septal cartilage. One larger piece was anchored in the membranous septum. A piece of the same type of septal cartilage was placed in the depressed dorsum. This patient bled profusely for three days and required a transfusion. In the past two years there has been no sign of absorption of the grafts. This procedure gave ample breathing space, corrected the sagging dorsum and shortened the nose.

Case 3.—A white man 30 years of age gave a history of nasal injury 10 years before. He had difficult nasal respiration, along with an external deformity. Externally the nasal bones were to the left of the midline. There was a concavity in the right middle third of the nose and also a retraction of the columella. Internally the septum showed an S-shaped deviation, causing partial obstruction in both nasal cavities. Under local anesthesia a cartilaginous graft was placed in the columella through an incision from the right side. An extensive septum operation was performed because of the severe deviation. The pyramid was then uncovered. The nasal bones were separated intramucosally followed by a bilateral osteotomy and infracture. The septum was repaired with pieces of bone and cartilage, as previously described. A fairly large piece of isograft (rib cartilage) was placed over the dorsum. This man has better breathing, the nose is fairly straight, and the saddling of the dorsum is corrected.

Fig. 4, Case 3

Fig. 5, Case 4

Fig. 6, Case 5

Case 4.—A white girl 19 years old gave a history of a crushing injury of the nose in an automobile accident 2 years previously, and of having had a submucous resection of the nasal septum one year later. She complained of some difficulty with nasal respiration and a deformity that definitely worried her. Externally there was a depression in the middle one-third of the nose and also a retraction of the columella. Internally there was adequate air space in both nasal cavities, but both upper lateral cartilages were pulled downward and backward. Under local anesthesia a cartilage graft was placed in the columella through an incision in the right membranous septum. A rhinoplasty was then done, including separation of nasal bones, bilateral osteotomy and infracture. A cancellous bone graft (from the right hip) was inserted into the area over the dorsum. Two years later the columella is well down, the nasolabial angle is better, and the sagging dorsum is still corrected. Bony union is firm.

Case 5.—A 15-year-old white boy fell on a railroad crosstie, receiving a compound fracture of the nasal bones and septum. He was first seen by a rhinologist five months later for a disfigurement and nasal obstruction. Externally the dorsum was depressed, including the nasal bones and upper lateral cartilages, and an oblique adherent scar was present across the middle third of the nose. Internally he had a badly deviated and irregular septum, with complete obstruction of the left nasal cavity. Under local anesthesia a reconstruction of the septum was done. A bed was then prepared for a hip graft by separating the skin over the nose from the underlying tissue via intercartilaginous incisions. The nasal bones were "freshened up" by means of a chisel and this graft was inserted. During the next few months this graft gradually became smaller, and the saddling reappeared. The patient did not want another hip operation at this time, so it was decided to insert polyethylene. This was done through an incision in one ala just caudal to the lower lateral cartilage. The boy has adequate breathing space, and the deformity is somewhat improved.

CONCLUSION

The saddle nose has been reviewed from the standpoint of etiology, symptoms, pathology and treatment. Several methods of repair are presented with cases demonstrating some of the procedures. The purpose of this effort has been to stimulate more rhinologists to work in this field.

The correction of saddle nose is a rhinologic problem.

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THE CALCANEUS FOOT*

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The calcaneus foot is by far the most disabling of the various paralytic foot deformities. This is particularly true insofar as gait is concerned. These individuals walk without any take-off or spring in their step. They walk as though they are wearing a prosthesis on the involved side. The knee may be forced into recurvatum with each step.

The manner in which the calcaneus foot develops is more complex than that of other paralytic foot deformities, and as a whole, therefore, may be less readily understood. Before one can properly manage this type of foot, he must have a clear conception of the underlying pathology, including the structural bone changes and abnormal kinesiology involved.

PATHOLOGY AND DEVELOPMENT

There are four component deformities in the calcaneus foot. Each component is initiated by a different muscle or group of muscles. Once initiated, all involved muscle groups act together, or synergistically, to bring about the fixed calcaneus foot.

Component 1.—The primary and most important component is due to loss of power to a degree below functional level in the gastrocnemius-soleus group of muscles. In the presence of this weakness the toes and metatarsal heads become the fixed point for all muscle activity when weight is borne on the involved side. The short flexors are left unopposed in their action and, as a consequence, draw the inferior pole of the os calcis forward. As the os calcis inches forward, the plantar fascia slowly contracts and acts as a check rein to maintain the gradually increasing deformed position of the posterior foot. In the fixed calcaneus deformity the plantar fascia is the structure that is contracted, not the plantar muscles.

As the os calcis is forced into a more vertical position, the talus is forced into dorsiflexion. The two tarsal bones making up the posterior portion of the foot move as a unit into this abnormal position. The talus does not maintain its normal relationship to the tibia nor is the os calcis forced away from the posterior aspect of the talocalcaneal joint (*Fig. 1*). There is very little structural change in the anteroposterior plane of the talocalcaneal joint. This observation is contrary to that of most present day teaching. An exception to this relationship may be found in individuals who for a great number of years have walked on an uncorrected calcaneus foot. These patients usually have a large callused or mushroomed heel in addition to adaptive changes in the subtalar joint.

Component 2.—When the posterior portion of the foot is forced into dorsiflexion, the individual has to make a greater effort to plantar-flex the forefoot in order to get a purchase through the toes for combined muscle action when taking a step. This position of the foot places the posterior tibial and peroneal muscles in a better mechanical position to become strong plantar flexors of the forefoot. Forefoot equinus is added to the dorsiflexed position of the posterior portion of the foot. Both components augment the cavus deformity.

Component 3 (*Fig. 2*).—When the posterior foot is dorsiflexed and the anterior foot plantar-flexed, the angle through the mid-tarsal joint becomes more acute. It is elevated in relationship to the plantar surface of the normal foot. The anterior tibial muscle attached near the mid-tarsal joint is in a position further to elevate the mid-tarsal joint because of lack of power in the

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†Warm Springs Foundation.

gastrocnemius-soleus group. This is probably the least deforming component of the four.

Component 4.—In the presence of this extreme cavus deformity, the dorsum of the foot is elongated in comparison to the plantar surface, which is shortened. This has a direct effect on the long extensor and flexor mechanism of the foot. The long toe extensors are short in relationship to the elongated dorsum of the foot. Likewise, the long flexors are longer in proportion to the shortened plantar aspect. The long toe extensors function without balanced opposition from the long flexors. Clawing of the toes is the result. The interphalangeal joints are flexed, the metatarsophalangeal joints are hyperextended, and the metatarsal heads are depressed. The dorsal interosseous muscles are placed to better advantage further to increase this deformity. Depression of the metatarsal heads further augments the cavus.

Fig. 1

Note the vertical position of the os calcis and the dorsiflexed position of the talus. The weightbearing point is on the neck of the talus and the extreme anterior portion of the articular surface of the body. There are no structural changes in the anteroposterior plane of the talocalcaneal joint.

Fig. 2

The above photograph shows all the component deformities in the calcaneus foot. (1) Dorsiflexion of the posterior foot with absence of prominence of the heel posteriorly. (2) Contracted plantar fascia with forefoot equinus (cavus). The plantar surface is shortened. (3) The dome-shaped elevation of the midtarsal joint and elongation of the dorsum of the foot. (4) Clawing of the toes with depression of the metatarsal heads.

TREATMENT

Treatment is both conservative and operative. The proper plan of treatment is based on the correction or reversal of the four component deforming elements just mentioned.

Conservative Treatment.—No foot problem in poliomyelitis challenges the ingenuity of the surgeon more than the potential calcaneus foot in a young child (*Fig. 3*). The patient must have the best of physical therapy. He should be fitted with a long walking splint with anterior stops and an assistive elastic strap posteriorly. The long splint is preferable to a short one because these young patients will almost invariably develop genu recurvatum if allowed to walk without support at the knee. The heel of the shoe should be built up posteriorly to force the foot into equinus. A slight transverse raise inside the shoe just in front of the os calcis has some value in preventing the heel from creeping forward. In spite of these conservative measures, the deformity is likely to progress.

Surgical Treatment in the Child.—This is a foot deformity for which one should not hesitate to do the indicated tendon transfers as early as a year after the acute onset and as long as three

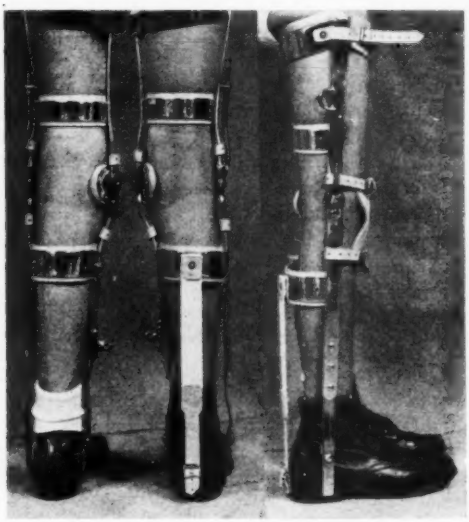

Fig. 3

Long leg supportive splint for a calcaneus foot. A full length splint is necessary to prevent genu recurvatum. The assistive elastic strap posteriorly aids the weak gastrocnemius-soleus group of muscles.

years before the child has sufficient bone maturity for a foot stabilization.

The most common procedure is the transfer of the posterior tibial and peroneals back to the os calcis. The tendons should be placed directly into bone and as far posteriorly as possible. If placed in front of the apophysis, the lever arm will be shortened as the foot grows in length and the transfers will become less efficient. The tendons likewise should be placed just a little lateral to the midline of the oscalcis. A foot with a little posterior valgus is a useful and stable foot. A foot with posterior varus is unstable and unsuitable for weightbearing.

The anterior tibial is usually not transferred until there is adequate bone maturity for stabilization. This muscle is not so likely to contribute further to the cavus deformity after the other tendons have been transferred. It can be shifted to better advantage, depending on the type of deformity or the needs that may be present at the time of stabilization. One should, however, bear in mind the possibility of the development of a dorsal bunion when the anterior tibial is left intact after the peroneus longus has been transferred. Plantar fasciotomy is not done until the foot is stabilized.

These feet, even after tendon transfers, should be protected by a brace and built-up heel until the patient is old enough for stabilization. The advantages of early tendon transfers are at least five-fold (*Fig. 4*):

(1) Progression of the deformity can be stopped or at least retarded to a minimum. The normal projection of the heel posteriorly can be restored.

(2) The gait is remarkably improved.

(3) A counter thrust is created, against which the remaining intact muscles can function.

(4) Physiology is improved in that the muscle action is more properly transmitted to the tarsal bones. This promotes more normal growth.

(5) Stabilization when indicated can be done with greater ease. One is more likely to obtain a foot more normal in appearance and more nearly the size of a normal foot as an end result.

Early tendon transfers in a child should never be advised or carried out until the parents fully realize that a stabilization will be necessary at a later date. An astragulectomy is never done in our clinic in a child or an adult.

Operative Treatment of the Mature Foot.— The over-all surgical program is aimed at shortening the dorsum of the foot plus lengthening its plantar aspect and, finally, the removal of all deforming factors when possible and where necessary. The basic procedures involved in the operative technic to be described are essentially those of the late Dr. Michael Hoke.

Step 1. — Plantar fasciotomy, not Steindler stripping, is the first procedure to be carried out. The plantar aponeurosis is the structure which is tight, not the short flexor mass of muscles. Through a longitudinal incision remove a 2 to 3 cm. square block of fascia and divide the remaining aponeurosis on either side. Normal muscula-

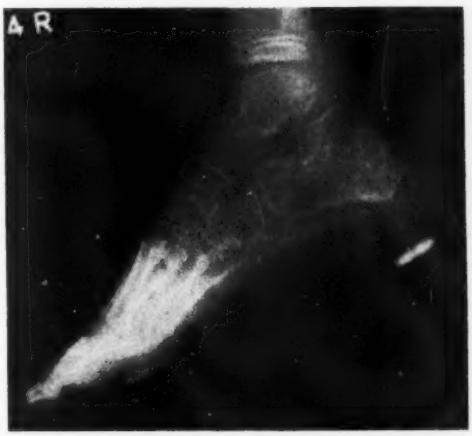

Fig. 4 A

Two weeks postoperative posterior tibial transfer to the os calcis in a 7-year-old child. Button is still in place.

Fig. 4 B

Eight months later, note prominence of the heel posteriorly and improvement in the cavus deformity.

ture underneath is found relaxed even after the cut edges of the fascia have separated.

Step 2.—Correct the dorsiflexion of the posterior foot (*Fig. 5*). This abnormal position is corrected by simple manual plantar flexion of the entire foot at the ankle. This will increase plantar flexion of the forefoot, but the talus and calcaneus making up the posterior foot will be in a normal relationship to the tibia. The desired prominence of the heel posteriorly will be restored. The stabilization should be carried out with this position of the foot in mind.

First Stage of the Stabilization.—Remove the cartilage only from the talocalcaneal joint. Turn up bone chips from the denuded joint surfaces. It is not necessary to remove a wedge of bone with the base pointing posteriorly to restore proper relationship between the talus and the calcaneus. The removal of cartilage and the manual plantar flexion are all that are necessary to correct the deformity in the posterior portion of the foot. It is not necessary to displace the foot posteriorly at the talocalcaneal joint in order to restore the contour of the heel.

Second Stage of the Stabilization.—Correct the plantar flexion of the forefoot by removal of a wedge of bone from the calcaneocuboid joint, with the base pointing to the dorsum. Remove the head and neck of the talus, replacing a small portion of the head deep in a midline between the navicular and body of the talus (*Fig. 6*). Place bone chips, taken from the neck of the talus, in all crevices, including the sinus tarsi. The forefoot is now in proper relationship to the posterior foot and the entire foot is in proper relationship to the tibia.

Third Step.—The first part of the Jones suspension if indicated should be done at this time. The second stage of the procedure should be

Fig. 5 A (top)
A typical calcaneus foot described under legend of *Fig. 1.*

Fig. 5 B (bottom)
The dorsiflexed position of the posterior foot has been corrected by manually plantar flexing the entire foot at the ankle. The relationship between the talus and tibia has been returned to normal. There are no structural changes in the anteroposterior plane of the talocalcaneal joint. The forefoot equinus has been increased in relationship to the tibia but not to the posterior foot. This is the position from which to plan and do the foot stabilization.

Fig. 6 A (top)
Preoperative foot in dorsiflexion (see *Fig. 1*).

Fig. 6 B (bottom)
Postoperative foot. The foot in *Fig. 1* has been stabilized. The peroneals and posterior tibial have been transferred back to the os calcis. Attention is called to the small amount of bone removed from the talocalcaneal joint. Almost the entire body of the talus has been left intact. All of the neck and most of the head of the talus have been removed. Note the normal articulation between the talus and tibia.

delayed until four weeks later, when other indicated tendon transfers are done (*Fig. 7*).

Jones Suspension. — A Jones suspension, of course, is an operative procedure whereby the interphalangeal joint of the great toe is fused (first part) and the extensor hallucis longus transferred to the metatarsal neck (second part) (*Fig. 8*). The operation accomplishes a two-fold purpose: it lessens the cavus deformity of the foot by overcoming depression of the first metatarsal head. The power of extension of the great toe, instead of being dissipated as a deforming factor, is changed to a position where it performs a useful function as an active dorsiflexor of the forefoot. Three points of importance in performing this relatively minor but important procedure deserve emphasis. First, when the interphalangeal joint of the great toe is fused, only the cartilage is removed together with enough bone to correct any medial or lateral deviation or structural flexion deformity that may be present. The denuded bone edges are roughened by turning back small bone chips. No intramedullary bone peg is necessary. The operated toe is immobilized by a short Kirschner wire placed from retrograde position. The wire is inserted from the denuded joint distally through the distal phalanx. After the wire has emerged from the skin, it is further withdrawn until the proximal end of the wire coincides with the interphalangeal joint. The drill is then attached to the emerged end of the

Fig. 7 A (top)
The preoperative plantar flexed calcaneus foot (see *Fig. 5 B*).

Fig. 7 B (bottom)
Postoperative calcaneus foot in plantar flexion. Note the increased degree of plantar flexion in the posterior foot. The dorsum of the foot has been shortened, the dome-shaped elevation of the midtarsal joint removed. The plantar surface of the foot has been elongated, the cavus corrected. There is no clawing of the toes.

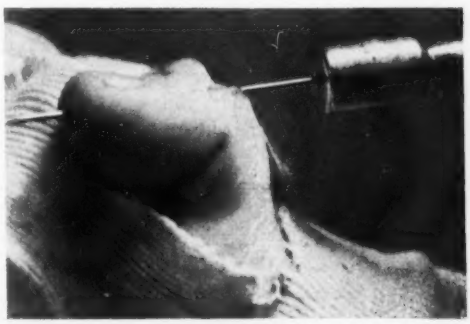

Fig. 8 A
Cartilage of the interphalangeal joint has been denuded and bone chips placed in the interval. A Kirschner wire is inserted in retrograde manner from the denuded joint surfaces.

Fig. 8 B
Wire in reverse is forced proximally into the medullary canal of the proximal phalanx.

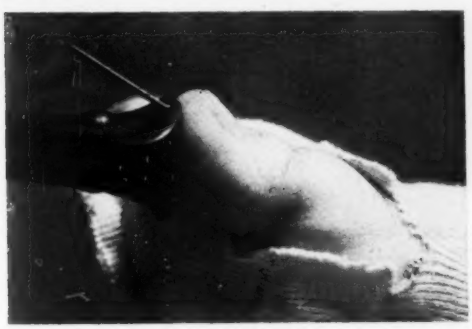

Fig. 8 C
Excess wire cut off flush with the skin. The joint is impacted. The wire can be removed under novocaine at the end of six weeks.

wire and forced proximally into the medullary canal of the proximal phalanx.

The second point of importance is concerned with transfer of the extensor hallucis longus to the metatarsal neck four weeks after the stabilization (*Fig. 9*). The entire circumference of the long extensor sheath should be removed for an inch or more in extent. If the sheath is left intact, the tendon may regenerate and the results of the operation may be entirely lost.

Third, the transferred tendon should be placed directly through the metatarsal neck and tied to a button on the plantar surface of the foot. This can be done by silk interwoven through the tendon and fastened to a button; or a better plan is the pull-out wire method after the technic of Bunnell.

Postoperative Immobilization. — Maintain the posterior foot in extreme plantar flexion. Apply the cast with a plaster stirrup to maintain the os calcis in this position (*Fig. 10 A*). Allow this portion of the cast to harden; when it has set, the anterior portion of the foot can be forced into dorsiflexion and the cast completed.

Postoperative Wedgings.—At the end of the first week one may begin to wedge the forefoot into further dorsiflexion by open wedgings. Simply make a transverse cut along the mid portion of the foot, leaving a plaster hinge on the dorsum (*Fig. 10 B*).

Tendon Transfers.—Tendon transfers serve a two-fold purpose. First, unopposed muscle power is removed as a deforming factor; second, deforming muscle activity is transferred to a new site to perform a useful function. Tendon transfers can be done at the end of four weeks following foot stabilization.

The posterior tibial and peroneals should be fastened into bone under considerable tension

Fig. 9 A (left)
Preoperative calcaneus foot, with depression of the metatarsal heads and clawing of the toes.

Fig. 9 B (right)
Postoperative calcaneus foot. Depression of the metatarsal heads and clawing of the great toe are corrected by Jones suspension. Peroneals have been transferred to the os calcis. Tendons are anchored through bone by the Bunnell pull-out wire technic.

Fig. 10 A
Maintain the foot in extreme plantar flexion. Apply the cast with a plaster stirrup to maintain the foot in this position.

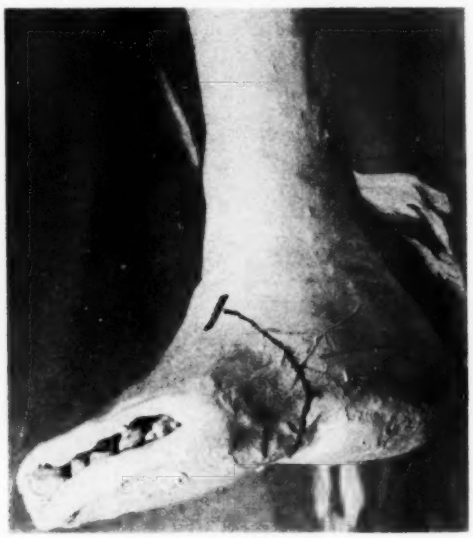

Fig. 10 B
One week after surgery the plantar surface of the foot can be elongated by open plaster wedgings.

Fig. 11

The extensor hallucis longus is fastened into the neck of the first metatarsal and the peroneii into the os calcis. Both tendons are passed directly through bone and anchored to a button on the plantar surface by the Bunnell pull-out wire technic.

Fig. 12

Peroneal and posterior tibial transfers to the os calcis, left. Patient can walk on tip toes.

with the posterior foot in extreme plantar flexion. The second stage of the Jones suspension is completed at this time (*Fig. 11*). The long extensor of the great toe is not fastened into the metatarsal neck under too much tension as this is to act as a dorsiflexor, whereas all previously transferred tendons to the os calcis are to act as plantar flexors, which is the lost power one is trying to regain. All tendons are fastened directly into bone by the Bunnell pull-out wire technic. The wire is removed at the end of four weeks. It is unsound surgical practice to attach any transferred tendon about the foot into another tendon or into an osteoperosteal flap by any form of suture (*Fig. 12*). They will invariably pull away to some extent from their attachments and their efficiency will be completely lost. Transfer of the lateral toe extensors to the tarsus is rarely necessary, since shortening the dorsum of the foot by stabilization has the effect of adding length to these tendons.

Foot stabilization and the indicated tendon transfers are never done as a combined procedure, as one cannot correctly control the position of the foot when applying a cast postoperatively, and at the same time immobilize the transferred tendons under ideal tension for best function.

Eight weeks of immobilization is adequate time for a stabilized foot to develop sufficient bone consolidation for safe and comfortable weight-bearing. Tendon transfers about the feet should be held six weeks before beginning postoperative physical therapy. If these are done four weeks after the foot is stabilized, a total of ten weeks in cast is adequate before the patient again begins walking.

All calcaneus feet in the adult are protected for a period of three months by a short brace which will prevent dorsiflexion of the foot. The apparatus is worn day and night. At the end of this period any good quality conventional oxford with a medium height heel is all the support necessary for weightbearing.

TYPHOID MENINGITIS CURED WITH CHLORAMPHENICOL*

CASE REPORT

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and
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Chloramphenicol (chloromycetin®), a new antibiotic discovered by Ehrlich, Burkholder and co-workers[1] in 1947, has been shown to be effective against various infectious diseases, among them typhoid fever.

It was used for the first time in human infections by Payne, Knaudt and Palacios[2] in Bolivia against typhus. Its usefulness was then demonstrated.

Chloramphenicol has a notable activity against typhoid. Ehrlich[1] and Smith[3] demonstrated its remarkable activity *in vitro* against Eberthella typhosa. In broth culture media, 0.25 microgram per ml. was enough to inhibit its growth.

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*From Hospital de Enfermedades Infecciosas Tropicales, Asuncion, Paraguay.

*Read before the "Sociedad de Medicina Tropical y Enfermedades Infecciosas" of Paraguay, on May 31, 1950.

*After this paper was presented, we read a report by Howard W. Ripy on a case of typhoid fever in an infant complicated by typhoid meningitis in which chloramphenicol did not cure the patient. However, a response to aureomycin was obtained. (Ripy, H. W.: J. Pediatrics, **36**:377 (March) 1950.)

This concentration was lower than the one necessary for other drugs to inhibit typhoid bacilli in the same conditions.

Woodward and co-workers[4] used chloramphenicol for the first time in human patients with typhoid fever in Malaca, and they clearly showed the efficacy of the drug. They gave the first scheme of administration.

Smadel and others[6] treated 44 cases of typhoid fever with chloramphenicol and stressed the need of prolonged treatment to avoid relapses.

Benhamou, Albou and others[7] obtained good results in severe cases of typhoid fever. Benhamou and his co-workers[8] treated 100 cases during an epidemic in Algiers and confirmed the efficacy of the drug. Nevertheless, 11 of 23 cases of typhoid encephalitis died. The drug did not show a therapeutic effect in some of these cases.

Knight, McDermott, Ruiz Sanchez and others,[9] have shown conclusively the efficacy of chloramphenicol in typhoid fever.

Fig. 1
Patient, white, aged 21.

Fig. 2
Aspect of deep, sacral bed sore.

Many other papers[5-24] demonstrate the efficacy of chloramphenicol.

We are not going to consider all the aspects of the treatment of typhoid fever with chloramphenicol. We think that this clinical note will be of interest because, as far as we know, it describes the first case of typhoid meningitis cured with chloramphenicol.

REPORT OF CASE

Z. C., a white man, aged 21, was admitted to the Hospital of Infectious Diseases of Asuncion on April 19, 1950, critically ill, in coma and with high fever. Six days before, he had been admitted to Hospital de Clinicas (a general hospital), whence he was transferred with the diagnosis of typhoid fever. The history sent by Hospital de Clinicas covered a period of 15 days. The patient had had progressive fever, diarrhea, dehydration, mental confusion and, later, urinary retention. Laboratory reports showed 3.9 million red cells; 5,100 white cells with 51 per cent neutrophils, 37 per cent lymphocytes and 2 per cent monocytes. Urinalysis showed specific gravity 1,013; albumin, plus-minus; sediment with some red cells, no casts. Blood urea was 0.30 gram per cent. Blood culture was positive for Eberthella typhosa. Agglutination test was positive at 1/1,260 for typhoid E antigen. He had been treated symptomatically and also with penicillin 50,000 units every three hours.

Physical examination disclosed a critically ill patient, very stuporous with temperature 40.3° C., dehydrated, with carphologic movements. Pupils were normal; ears and drums, normal; lips covered with dried crust; and dried and brown tongue. No neck stiffness or other meningeal symptoms were noted, but there was a slight Kernig sign. Heart and lungs were normal. It was possible to see and feel a very distended urinary bladder. There was flaccid paralysis of both lower extremities. No movements were obtained even with energetic stimulation. No deep reflexes were obtainable. There was a wide and deep sacral bed sore, and other less impressive sores in the hips and heels.

Spinal puncture was given at once and the fluid was purulent, with 1,800 cells per cubic millimeter. Pandy was four plus. No germs were seen in direct smears stained with Gram and Ziehl technics. A culture from the fluid was positive for Eberthella hyphosa. A blood culture gave the same micro-organism. Widal test was positive at 1/1,280 for E antigen. Urea in blood was 0.25 gram per cent. Other laboratory tests were not contributory.

On April 21, we started chloramphenicol (chloromycetin®), with three grams and then 0.50 gram every three hours. The following day, the patient was in the same condition. On April 23, the patient seemed to be worse. He was in deep coma, and the pupils reacted slightly to light. He had neck stiffness, meheorism and a bloody bowel movement. Urinary retention continued. Another spinal tap gave a clear fluid with 150 cells per cc., Pandy one plus. This fluid was cultured and still showed, on the fifth day, Eberthella typhosa. Blood culture taken the same day was negative. Penicillin was added in doses of 50,000 units every three hours. On

April 24, the patient appeared much better. The temperature came down to 37° C. On April 25, the patient was without fever and could answer some questions. On April 27, he could move his legs and we obtained knee reflexes. On April 28, he urinated spontaneously.

It is possible to follow the doses of chloramphenicol in the chart. On May 1, the patient had a slight increase in temperature and the urine had pus. Streptomycin was added, 0.50 gram every 12 hours. On May 7, chloramphenicol was discontinued.

To date, the patient is without fever. He is mentally clear, eats and urinates normally. His bed sore in the sacral region is healing slowly. Occasionally he has had fever that we thought was caused by infections from his sores. This fever came down with the use of penicillin. Twenty-three days have gone by since chloramphenicol was stopped. The last laboratory test showed 3.5 millions red blood cells; 20,000 white blood cells with 74 per cent neutrophils and 26 per cent lymphocytes (infections from his sores). Urine was normal; blood urea 0.04 gram per cent, and spinal fluid was normal.

COMMENTS

A patient with a diagnosis of typhoid fever confirmed by several blood cultures and a highly positive agglutination test, had a purulent meningitis due to Eberthella typhosa, as shown by two positive tests with cultures obtained from the spinal fluid. The germs obtained from the blood and cerebrospinal fluid gave the usual fermentation and agglutination reactions of Eberthella typhosa. No other micro-organisms were found in the spinal fluid, either by direct smears or by culture. The patient, although admitted in a critically ill condition, had a remarkable recovery with chloramphenicol therapy.

Purulent meningitis due to Eberthella typhosa, developed in the course of typhoid fever or as a first localization of the infection (meningotyphus), has always a very poor prognosis.[25 26] We have to differentiate it from meningismus and aseptic meningitis that may develop in the course of typhoid fever. These have a much better prognosis.

This type of meningitis is an unusual complication of typhoid fever. Stuart and Pullen[27] report one case in 360 typhoid patients studied, that is 0.28 per cent. In the Hospital of Infectious Diseases of Asuncion, in which over 278 cases of typhoid fever have been treated since 1945, we have had two cases of typhoid meningitis, or 0.71 per cent. The other patient was a 32-year-old man who developed meningitis in the course of a serious and toxic typhoid fever. Eberthella typhosa was recovered from the spinal fluid by culture and gram-negative bacilli were recognized in direct smear. The patient died in a few days.

It may be seen in this case, as has been observed by others,[8 9 11 28] and ourselves in cases of typhoid fever treated with chloramphenicol, that there is a latent period between the start of the therapy with the drug and the beginning of the clinical remission, during which the patient may get worse. The possibility exists that this ex-

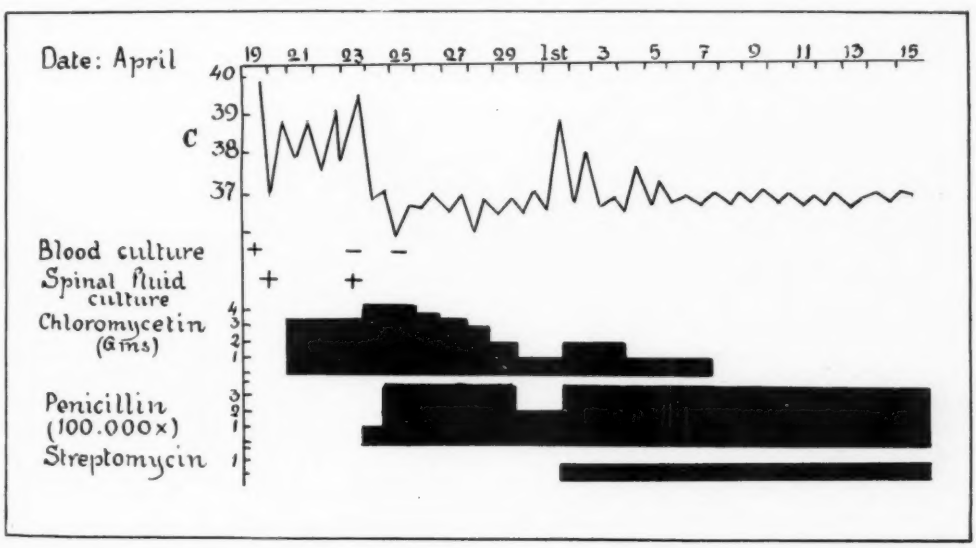

Fig. 3

acerbation of the disease and also the abrupt defervescence produced by the drug may have deleterious consequences.

Ley and his associates,[29] and Smith and his associates[30] have shown that chloramphenicol will appear in the spinal fluid when given by mouth, and a concentration of 3 to 5 micrograms per hundred ml. will be obtained in the spinal fluid, when in the blood the concentration is 15 micrograms per cent. We have no laboratory facilities to determine the concentration of the drug.

SUMMARY

A case of typhoid fever with meningitis produced by Eberthella typhosa was cured with chloramphenicol.

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THYROID DEFICIENCY IN CHILDHOOD*

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Thyroid deficiency in childhood is usually considered uncommon but may be more frequent than is recognized, especially if one considers mild degrees or temporary forms of it.

Etiology.—The acquired form, which is probably more frequent than the congenital type, usually results from general or local infections in the gland, and naturally results in a lowered production of the thyroid hormone because of structural alterations in the acini and their productive cells. When occurring in endemic areas, a reduced production of hormone is also partly due to iodine deficiency as well as the inability of a crippled gland to produce hormone from iodine. One should consider that a congenitally hypoplastic gland may produce sufficient hormone for the needs of early childhood but that a deficiency may result during the stresses of infection, adolescence and rapid growth years. Thus, what would be diagnosed as acquired hypothyroidism may at times be based on a congenital hypoplasia. Temporary hypothyroidism does occur, sometimes even with marked symptoms; this is probably due to the same mechanism. Structural temporary hypoplasia, however, has not been proven by biopsy.

Congenital hypothyroidism is due to congenital hypoplasia or, probably more frequently aplasia, commonly called athyreosis. In endemic areas of iodine deficiency, pregnant women who are hypothyroid are more likely to have such offspring. Cretinism is a term which should be reserved for those with goiter, dwarfism, myxe-

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dema, mental deficiency, hereditary tendency and inability to respond fully to thyroid extract. That disease occurs in only certain endemic parts of the world. If it occurs in the United States, it is very exceptionally; our so-called sporadic cretinism differs in that it is less markedly deficient than the endemic type. Goiter and familial recurrence are quite rare in cretins in America. The author has observed two sisters who could be called endemic cretins, but their mother could not be proved to have had iodine deficiency; she conceived and carried these children in an iodine rich area. Surprisingly, one of these cretinous sisters at biopsy had good evidences of hyperplastic thyroid tissue but was unable to take up radio-iodine and convert it into thyroxine.

There is reasonably good presumptive evidence that a lack of thyreotropic hormone could cause hypothyroidism. The author has entertained the thought that, possibly, excessive fluorosis could cause iodine deficiency and thus goiter and even hypothyroidism. Fluorine displaces iodine in the chemical reactions of the halogen series. Does it do so in the thyroid gland?

Natural History and Pathogenesis.—Let us consider the hypothyroid *in utero*. Acini and colloid appear at about the tenth to thirteenth week; it is at this time that iodine is first taken up by the thyroid cells and presumably they form thyroid hormone. Dysfunction then could account for cretinism. A fetus without a thyroid or with a hypoplastic one, is carried on mainly by the mother's thyroid extract. Newborn hypothyroids usually are not overweight or markedly under developed. The deficiency does not appear clinically until they are several weeks to several months old when the mother's stored hormone is used up or the newborn's own small production manifests itself.

The genesis of the clinical picture of acquired hypothyroidism is slow except when the gland is removed or suddenly destroyed by massive infections, both of which are rare in childhood. The hormone production usually is slowly diminished to a total failure if untreated; this depression usually is not steady but intermittent. For instance, dwarfism, retarded dental eruption and occasionally even myxedema usually take much time to develop. There are often unequal deficiencies in the various systems and organs of the body. The rate of progression of the deficiency may vary. Target tissues in various patients react differently to the lack of the hormone. The genesis takes months or years before the full-blown description as given in medical texts is present. Even then some patients have not all of the classical symptoms and signs.

Congenital hypothyroidism if untreated is more likely to have more or most of the classical picture. The child who developed normally for some years and then acquires thyroid deficiency may not develop all findings. However, he will have a chance to develop those in his growing parts, for instance, mental retardation. He can be made quite normal again by therapy. The adult, who acquires hypothyroidism, likewise may not develop all of the classical symptomatology, for instance, mental retardation. He may lose attention and concentration but his intelligence does not suffer much. This, too, can be reclaimed by therapy.

As mentioned, there may be an unequal distribution of the deficiency in a given patient. Myxedema demonstrates this. It may be mainly about the larynx and less so in the skin or eyelids, or it may be most manifest about the joints with very little obvious elsewhere.

The Clinical Picture.—The more common type probably is acquired hypothyroidism. However, upon inquiring carefully into the past history, infantile photographs and past body lengths, the author feels that many so-called acquired types may have developed, or actually did develop in early infancy and were congenital.

The Congenital Type.—Often, but not always, they are born from thyroid or iodine deficient mothers in iodine deficient areas. They are quite normal at birth. Within several weeks to several months the following usually appear: an inability to keep the baby nursing due to drowsiness, colic and constipation, pig-like facies, umbilical hernia, pallor, perhaps a yellowish tint in the skin, excessive weight, failure to grow in length, dryness and thickening of the tongue, failure of mental development, failure to notice, hold head steadily, and so on. A host of other symptoms can occur but these are the most common and, if all are present, they are very suggestive. A reliable epiphyseal retardation is further confirmation. A successful therapeutic test with thyroid extract will clinch the clinical diagnosis. Only a few congenital hypothyroids are recognized in the first few months of life; most of them are not recognized until the patient is one to two years of age.

Acquired hypothyroidism usually starts between the ages of four and eight years. Many of these children may have had their onset in early infancy. The hypoplastic gland, the more common pathologically, could not keep up with the demands of an infection, or accelerated growth and development. The most common complaints and findings are: slow physical and mental growth, lethargy with excessive sleep, constipation, pallor, yellow tint, dryness and thickness of skin, dry brittle hair, retroussé thick nose, thick lips and tongue, protuberant abdomen with perhaps hernia, short stubby fingers and toes, disproportionately short arms and legs, piglike dull facies and a host of variably occurring findings. Helpful laboratory findings are a reliable basal metabolic rate of 15 per cent or lower and an epiphyseal retardation of more than 1½ to 2 years. Again, a successful therapeutic test with thyroid extract proves the clinical diagnosis.

Temporary hypothyroidism is not common clinically but it may be more common than is realized. The findings usually are partial and may be minimal, which makes them difficult to recognize. Thus, we had a ten-year-old girl who was not progressing well in school for six months, was more lethargic than formerly, her hair and skin were becoming characteristic and the basal metabolic rate averaged 22 per cent minus on several different days. Not enough time had passed to stunt her growth, epiphyseal age or intelligence. She responded excellently to thyroid extract for one year and for 5 years subsequently she has not needed any thyroid medication. The cause could not be determined. Will this deficiency recur (*Fig. 1*)?

Families as well as physicians do not recognize all of the patients' complaints. Some families recognize only the stunted height but sometimes not the mental deficiency, for these children are always good, quiet and never cause as much trouble as their siblings. This is particularly true of the infants who sleep all the time, which bothers the mother, but she often fails to note the small height. The extra weight pleases her. The picture is so protean that the writer cannot go into all of the manifestations. The exhaustive systems of medical texts serve this purpose. As with any unusual diagnosis, if the physician has hypothyroidism in mind he will not miss it usually.

Laboratory Diagnosis.—For further confirmation of a clinical impression of hypothyroidism, the author recommends the following: low basal metabolic rate (by insensible perspiration in infants), low creatinuria, high blood cholesterol, low blood protein-bound iodine, low serum phosphatase, low uptake in thyroid gland and high urinary excretion of iodine^{131}. The author's experience with iodine^{131}[1] is such that he would not recommend it as a practical test at this time. He also finds too many hypothyroid infants with normal blood cholesterols.

Differential Diagnosis.—While it is difficult to diagnose mild types, too many without this disease are mistakenly so diagnosed.

One of the commonest mistakes is so to label the mongolian idiot. The commonest differences are that mongolian idiots are too lively and happy, their muscles and joints are very lax, they have no myxedema, they have slanted eyes with epicanthic folds and they do not respond at all satisfactorily to thyroid extract. The parents should be told tactfully and sympathetically that their child does not have hypothyroidism but has the mongolian state.

Probably the commonest misdiagnosis is in

Fig. 1

E. J. P3651. Temporary, definite hypothyroidism. Vitiligo also relieved with thyroid extract.

the obese. Hypothyroids never are greatly overweight; they are only moderately so. If the relatively inert obese tissue is subtracted in computing the basal metabolic rate, the rate is nearly normal. The obese are not dwarfed as a rule, are not myxedematous, are not retarded mentally, they do not lose all of the overweight by using thyroid extract and they are overweight from overeating and not because of subnormal thyroid function.

The practice of explaining mental retardation following brain disease or injury by thyroid deficiency is disappearing but still existent. Again, families should be told the cause and told not to hope for miracles from thyroid extract. Let them try it as in the obese and the mongol state but explain sympathetically that it will probably not help but will not harm.

Gargoylism (*Fig. 2*) physically resembles cretinism. Gargoylism is characterized by dwarfism, limited extension in joints so that the stance is crouched, cloudy cornea, retroussé nose, partially open mouth with large tongue, gruesome facies, enlarged liver and spleen, mental retardation, abnormal hirsutism, unique skeletal changes in x-rays and failure to respond to thyroid extract. It is probably due to a storage of a carbohydrate-protein complex (2_a and 2_b).

Fig. 2

Treatment.—One should start thyroid extract in small doses and increase it every three to four days to the maximum tolerated dose and then reduce the dose to just below that. The more deficient the patient, in general, the smaller the effective dose required; these patients are sensitive to thyroid extract. Improvement can be noted three to four days after an effective dose is started. They should be checked for dosage and toxicity every week for the first month and every two weeks for the next two months. Otherwise they receive too little or what is worse, too much. In the latter instance, families stop therapy. Since thyroid extract acts cumulatively, one can stop treatment occasionally for a week so as to avoid too much toxicity. Since patients must take the extract for life, we often give extra calcium and vitamins A and D to help correct the slow leaching effect of the extract on calcium in the skeleton. Make sure the thyroid used is a potent one or has not aged too much. Remember that English preparations like Burroughs and Welcome are one-third the American strength. Average daily doses are: 2-4 months, 6 mg.; 4-8 months, 12 mg.; 8-12 months, 18 mg.; 12-24 months, 25-50 mg.; 2-4 years, 30-100 mg.; and 4-12 years, 60-200 mg. For infants powdered extract can be bought and given in formula. The total daily dose can be given once daily. Thyroxine has no advantages over thyroid extract and has to be given by injection. Iodine can be given in endemic goiter areas, though there is enough iodine in thyroid extract.

Toxicity and progress can be adequately checked by watching for their manifestations, mainly: height, weight, pulse and nervous symptoms. Do not let the epiphyseal age advance more rapidly than the height age.

Good physical development, while to be desired greatly, is not the main object of therapy; good mental development is. This is the main reason for early diagnosis and continuous therapy. About 20-25 per cent of these patients can attain fairly normal mentality by therapy started early.

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DISCUSSION *(Abstract)*

Dr. Henry H. Turner, Oklahoma City, Okla.—It has been said that, although hypothyroidism is the oldest recognized endocrine deficiency, it is also perhaps the most often misdiagnosed. Dr. Reilly has emphasized this fact, and pointed out that hypothyroidism should not be diagnosed in all children presenting deficient growth and mentality associated with retardation in the appearance and development of the osseous nuclei.

We have found it most difficult to get accurate basal metabolic rates in children, especially the numerous uncooperative ones. The standards for children are not too reliable, and the very wide range of normal variation in the basal metabolic rate, pulse, and blood pressure are frequently misleading factors in making the diagnosis. With respect to cholesterol levels, we are in agreement with Dr. Reilly. When the cholesterol level is high enough to be significant, the diagnosis is readily evidenced by the clinical findings. In fact, hypercholesterolemia is not characteristic of hypothyroidism alone, and may not be accompanied by signs of thyroid deficiency. Radio-iodine uptake may not necessarily represent the degree of functional capacity of the gland. While our experience with radio-iodine has been limited to a relatively small number of patients, I think its use at the present is more of academic interest than of practical value. Probably the value of laboratory data lies not in conclusive and positive findings, but in establishing trends which may be significant or only suggestive. The best criterion as to whether a child is deficient in thyroid is a satisfactory clinical response to thyroid therapy. Physical inactivity and sluggishness generally characterize the hypothyroid subject and mongolism may be differentiated from it on the basis of activity alone in many instances. Although it requires considerable fortitude to tell the parents of a child with mongolism that it is a hopeless idiot, it is most unfair to them and to the child not to do so and to continue medication with thyroid or other agents, such as glutamic acid, which in our hands have been without any dramatic benefit.

In treatment of hypothyroidism, I should like to reemphasize what Dr. Reilly has already pointed out, namely: that the effective dose level is of great importance. Overdosage is as undesirable as underdosage.

Dr. Reilly (closing).—About mongolism, I am in a rather fortunate position. When we see the patient, often he has been through the hands of three or four other physicians, and it is not hard to tell the parents, though it is somewhat brutal that, "This is mongolism; this is not thyroid deficiency. In order to satisfy yourselves you can try some thyroid extract; I do not think it will help." Occasionally, they get a little lift out of the thyroid extract, but very little, and after a few weeks there is no improvement.

About the diagnosis of thyroid deficiency: all of us if we see a cretin as the textbooks describe it, have no doubt that it is a case of hypothyroidism. What we are trying to do is diagnose it early to save the patient from further mental retardation. How, then, are we to diagnose hypothyroidism early? I have no certain answer to that, no short answer. I should say that it is a combination of a careful history for deficiency signs and symptoms, careful physical and whatever laboratory work we are able to employ in our community. Any one of these single findings can occur in other diseases, so one must pool all one's findings and take a fling at it with thyroid extract and watch the patient for some months or years to confirm the impression.

LUPUS ERYTHEMATOSUS*

CLASSIFICATION, DIAGNOSTIC AND PROGNOSTIC VALUE OF BIOPSIES

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Lupus erythematosus is an affection of protean manifestations. It has been described under numerous synonyms; some of the early names applied to the disease are listed in *Table 1.*

The disease may be localized, diffuse, or systemic; it may be chronic and benign, or acute and rapidly fatal. The initial manifestation may be an eruption that is typical, or atypical, or it may be arthralgia, unexplained fever, weakness, weight loss, gastro-intestinal disturbances or other systemic symptoms.[1]

Cutaneous lesions may or may not be present. The eruption may consist of a single small lesion or it may be generalized. There is likewise a wide range in the morphologic patterns; practically all primary and secondary cutaneous elements have been reported: macules, papules, nodules, vesicles, bullae,[2] urticarial wheals, erythematous plaques, telangiectases, petechiae, purpuric plaques, hemorrhagic manifestations,[3] hyperpigmentation, depigmentation, crusts, erosions, scales, atrophy, "macular atrophy,"[4] scars, follicular plugging, alopecia, and ulceration.[5] The oral mucous membranes are frequently involved[6] and may be the only site of the disease. The vaginal mucosa[7] and conjunctivae[8] may also be affected. The scalp is a frequent site of involvement and may be site of onset; it may remain limited to this area for many years.[9] The nails are not immune.[10]

In addition to the cutaneous lesions, pain may

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be exhibited in a fully developed case of acute lupus erythematosus; it is usually of the rheumatic type. Other systemic manifestations are: weight loss, prostration, lymphadenitis, anorexia, nausea, vomiting, fever, arthritis, pericarditis, endocarditis, cardiac murmurs, hepatomegaly, splenomegaly, nephritis, retinitis, pneumonitis, peritonitis,[11] symptoms referable to the central nervous system[12] including toxic delirium, frank psychosis, coma, and convulsions; cachexia, and finally death. Laboratory studies may show leukopenia, anemia, hemoglobinemia, albuminuria with casts and erythrocytes, increase in the sedimentation rate, decreased total proteins, hyperglobulinemia,[13] altered albumin-globulin ratio, evidence of liver damage, biologic false positive serologic test for syphilis, thrombocytopenia,[14] and the so-called "lupus erythematosus" cell.[15] The more frequently encountered clinical and laboratory findings are tabulated in *Tables 2* and *3*, respectively.

It is apparent that lupus erythematosus may simulate many dermatologic and systemic diseases. A typical case is easily diagnosed; however, in some the diagnosis is made only after long and careful observation, painstaking physical examination and selected laboratory tests; in still others, the diagnosis is made only at postmortem.

An early correct diagnosis is important and in those cases which are not clinically typical, any procedure of aid in arriving at this goal is of value. A thorough dermatologic and general medical physical examination is essential. Routine urinalysis and hematologic studies are helpful in many instances. In acutely ill patients the finding of lupus erythematosus cells is significant.

VALUE OF HISTOLOGIC FINDINGS

We have found a properly performed skin biopsy to be a valuable adjunct, as a biopsy in this disease will usually prove diagnostic. The replies to a questionnaire[16] submitted to leading dermatohistopathologists indicated that lupus erythematosus was diagnosable by biopsy in 75 per cent of cases. Perhaps this figure should be higher. McCarthy[17] has said "Although no one feature is diagnostic of lupus erythematosus, the combination of certain pathologic changes is fairly characteristic for this affection and is sufficient for a diagnosis." Montgomery agrees:

> "The histopathologic picture of lupus erythematosus is usually diagnostic if a specimen for biopsy is obtained from a lesion of at least several weeks duration and from a lesion that has not been subjected to irritating or stimulating preparations or to radiotherapy"[18] and ". . . there is no single pathologic change which will allow a definite diagnosis of lupus erythematosus. However, a combination of observations when considered together seems to be relatively specific."[19]

EARLY NAMES APPLIED TO LUPUS ERYTHEMATOSUS

Flux sebace (Rayer) 1827
Erythema centrifuge (Biett) 1828
Seborrhea congestiva (Hebra) 1845
Lupus erythematosus (Cazenave) 1851
Herpes Cretace (Devergie) 1854
Erythema lupinosum (Veiel)
Vespertilio (Balmano Squire)
Ulerythema centrifugum (Unna)

Table 1

ACUTE LUPUS ERYTHEMATOSUS, CLINICAL FINDINGS

1.	Fever.
2.	Malaise.
3.	Loss of weight.
4.	Serositis: pleuritis, pericarditis, peritonitis.
5.	Arthritis.
6.	Nephritis.
7.	Lymphadenitis.
8.	Carditis, endocarditis (vegetative).
9.	Dermatitis (acute lupus erythematosus).
10.	Lupus erythematosus of the mucous membranes.
11.	May have other complications as cerebral, gastro-intestinal, or ocular, and so on.
12.	May have remissions, but approximately 90 per cent die within several years.
13.	Death.

Table 2

ACUTE LUPUS ERYTHEMATOSUS, LABORATORY FINDINGS

A.	Leukopenia less than 4,500.
B.	Anemia less than 3,500,000.
C.	Hemoglobin less than 12 gm. (70 per cent).
D.	Thrombocytopenia.
E.	Renal irritation (nephritis or nephrosis): casts, erythrocytes, albumin.
F.	Decreased total proteins.
G.	Increased globulin.
H.	Altered A/G ratio.
I.	Evidence of hepatitis.
J.	Biologic false positive STS.
K.	Increased sedimentation rates.
L.	Demonstration of the lupus erythematosus cell.
M.	Skin biopsy findings of acute lupus erythematosus.

Table 3

The following histopathologic findings according to the literature[20] favor the diagnosis of lupus erythematosus. The epidermis shows hyperkeratosis, usually without parakeratosis; keratotic plugging of the hair follicles, sweat ducts or independent of either; adjacent areas of atrophy and acanthosis of the prickle cell layer, liquefaction degeneration edema of the basal cell layer, and occasionally, exocytosis. In the cutis there is a perivascular and peri-appendageal cellular infiltration consisting primarily of lymphocytes, edema of the cutis, especially the papillary bodies, dilatation of the superficial blood vessels and lymphatics, loss of elastic fibers in areas of infiltration, and often, in the upper cutis, deeply staining chromatophores containing melanin. Edema of the blood vessel walls is frequent, but degenerative changes are rare. Satenstein[21] and others have considered the merging of connective and elastic tissue fibers to be an important part of the histopathologic picture of lupus erythematosus. However, Montgomery and Goeckerman[20c] found such changes only in those biopsies taken from exposed areas, and said that the formation of collagen was dependent on senile changes rather than on lupus erythematosus. Occasional giant cells may be found in connection with destructive changes in the walls of hair follicles. Baccaredda[22] noted the presence of large numbers of a special cell in lupus erythematosus. These cells had enlarged and usually elongated nuclei with increased and more compact chromatin, so that they stood out intensely stained. The cells were found in groups or isolated, around the vessels or intermingled with the normal infiltrate. He regarded them as mesenchymal cells and considered their presence an expression of an allergic process in the skin.

In the scalp, Laymon[23] found that the perifollicular distribution of cellular infiltration was more typical of pseudopelade whereas in lupus erythematosus it was heavier and more diffuse in the upper part of the edematous cutis. This is in agreement with earlier findings of Brocq, Lenglet, and Ayrignac[24] and van der Meiren.[25] In the epidermis Laymon found relative and absolute hyperkeratosis, preservation and in fact thickening of the granular layer, epidermal atrophy, keratotic plugging, not necessarily follicular, and vacuolization of the basal layer in varying degrees.

Pautrier and Fage[26] found a remarkable parallel in the histologic pictures of cutaneous and mucous membrane lesions. In biopsies from lupus erythematosus of mucous membranes there was hyperkeratosis, occasional parakeratosis, corneal plugging, a granular layer of varying thickness, atrophy or acanthosis of the mucous layer or at times a mixture of the two. The basal layer was usually normal but at times disrupted by influx of leukocytes. The most constant finding was the cellular infiltration of the papillary bodies and the superficial dermis, composed principally of lymphocytes. There was dilation of blood vessels with new vessel formation. The connective tissue showed little change.

Stoughton and Wells;[27] by use of the McManus stain, showed gross alteration of polysaccharides in the vessel walls, the dermal-epidermal junction and in the corium below the subepidermal band. In the acute and subacute cases the larger vessels of the deep corium showed occlusion of the lumen due to inward projection of polysaccharide masses; whereas in the chronic cases the papillary capillaries were the principal site of vessel changes, showing thickening and hyperchromia without much encroachment of the lumen. Changes in the subepidermal band and in the corium were more pronounced in the chronic cases.

It would further enhance the value of a biopsy in lupus erythematosus if the various types of the disease could be distinguished histologically. The more acute forms show less infiltrate, more edema of the cutis, and more marked atrophy of the epidermis than the chronic forms. However, McCreight and Montgomery[19] concluded that distinction of the type of the disease based entirely on the histologic picture is impossible. It had been our impression that the differences are usually sufficient to warrant diagnosis as to type. To confirm or disprove that impression, the following study was instituted.

CLASSIFICATION OF TYPES

It was deemed propitious at the onset to set up standards for classifying the various types. Many classifications have been proposed.[28]

We think that it is important to differentiate the various types, especially in regard to prognosis. Recently, however, there has been a tendency to speak of "disseminated lupus erythematosus" without specifying whether chronic, subacute or acute. Often this implies the acute form; at times one may infer, from the clinical history, which type is under consideration. How-

ever, at times all three are grouped together in discussing results of treatment, mortality, laboratory findings, and so on. We believe it is desirable, in discussing the various disseminated types of the disease, that either the proper adjective be appended or the term "disseminated" be avoided by the use of one of the synonyms indicated in the following classification:

(1) Chronic discoid lupus erythematosus.
(2) Chronic disseminated lupus erythematosus (generalized discoid lupus erythematosus).
(3) Subacute disseminated lupus erythematosus (subacute systemic lupus erythematosus).
(4) Acute disseminated lupus erythematosus (acute systemic lupus erythematosus).

The term "generalized discoid" is used by O'Leary[28d] in his classification. The term "systemic" has been used previously to denote the more severe forms of lupus erythematosus.[29]

Arnold[30] says that the term "disseminated" suggests widespread skin lesions, which are frequently not present, and believes that "systemic" is more applicable, since it clearly indicates the important feature of this type of the disease, namely, the involvement of the body generally, including the viscera and blood vessels.

Groups 1 and 2 show cutaneous lesions varying in extent. In general, there are no systemic signs or symptoms attributable to lupus erythematosus. However, two recent reports suggest that even in chronic discoid lupus erythematosus there are systemic changes. Huff *et alii*[31] demonstrated in patients with chronic discoid lupus erythematosus a slower reflex vasodilatation and increased crest time and obliteration of the dicrotic notches in photo-electric plethysmographs. Walker and Benditt[32] found a decreased albumin-globulin ratio in patients with chronic discoid lupus erythematosus. Nevertheless, leukopenia, arthralgia, urinary changes, fever and other systemic changes which are otherwise unexplainable, should be considered warning signals of transition into Group 4.

The clinical picture of chronic discoid lupus erythematosus is well known. About one-half of the cases affect the nose and cheeks, followed, in order of frequency, by scalp, ears, forehead, eyelids, chin, mucous membranes of the mouth, neck and hands.[33] Many subtypes of the chronic discoid variety have been described, named in accord with some prominent presenting feature.[34] Some of these are listed in the table on terminology (*Table 4*).

The term chronic disseminated lupus erythematosus is applied to those cases showing lesions of the chronic discoid type, but in which the lesions are usually more numerous and extensive. The lesions usually show less evidences of chronicity as scaling, plugging and scarring but systemic manifestations are lacking.

Groups 3 and 4 may or may not exhibit cutaneous manifestations. Systemic involvement may be evidenced by few or several of the subjective signs and symptoms enumerated above. It is customary to grade these groups on the basis of degree of severity. Thus we may speak of a milder form, subacute systemic lupus erythematosus, and the more severe acute systemic lupus erythematosus. The subacute variety may be associated with only a few or mild systemic signs and symptoms, but whereas it has been estimated that only 5 per cent of the chronic discoid form eventuate into the acute form, in the subacute type about 30 per cent may become acute.

In this classification then, we would disagree with Montgomery and McCreight[20f] that 8 per cent of the chronic disseminated and 47 per cent of the subacute disseminated were fatal, but would say that these percentages of the chronic and subacute varieties respectively became acute with fatal outcome.

The above classification does not mention the Senear-Usher syndrome.[35] Gilman[36] considered the syndrome a distinct clinical entity representing a toxic dermatosis midway between dissemi-

LUPUS ERYTHEMATOSUS TERMINOLOGY

1. Chronic discoid lupus erythematosus
   Clinical types
   Lupus erythematosus nodularis (Pringle 1903)
   Lupus erythematosus telangiectoides (Crocker 1888)
   Lupus erythematosus hypertrophicus (Saalfeld 1909)
   Lupus erythematosus profundus (Scherber 1913)?
   Lupus erythematodes verrucosus (Schoenhof 1926)
   Lupus erythemateaux a forme vegetante (Milian and Perin 1928)
   Lupus erythematosus hypertrophicus et profundus (Bechet 1942)
   Lupus erythematosus papularis et nodularis (Irgang 1941)
   Lupus erythematosus tumidus superficialis (Irgang 1943)
2. Chronic disseminated lupus erythematosus
   Generalized discoid lupus erythematosus
3. Subacute lupus erythematosus
4. Acute lupus erythematosus
   Acute disseminated lupus erythematosus
   Systemic lupus erythematosus
   Lupus erythematosus sine lupus erythematosus
   Libman, Sacks disease

Table 4

nate lupus erythematosus and pemphigus. Wise[2] considers some cases to be disseminate lupus erythematosus, others to be benign pemphigus. Taussig[37] considered it to be a variety of lupus erythematosus. Senear and Kingery[38] recently reviewed the literature and concluded that in most instances cases which present the combination of elements suggesting features of lupus erythematosus, seborrheic dermatitis and pemphigus will prove to be examples of pemphigus erythematodes; the presence of the histopathologic picture of lupus erythematosus should exclude the case from this category, and the designation, Senear-Usher syndrome, should be discarded. Those cases presenting the mixed features described by Senear and Usher which prove to be lupus erythematosus should be classified under the appropriate type of this disease.

The Libman-Sacks syndrome[39] is considered a variant of acute systemic lupus erythematosus. Appropriate cases of the Osler erythema group[40] are also variants of systemic (acute or subacute) lupus erythematosus.

The position of symmetrical centrifugal erythema (erythema centrifuge symetrique, lupus erythematosus migrans of Darier) in the above classification is not clear. This is a superficial, edematous type of lupus erythematosus appearing on the cheeks, nose and ears, with a tendency to symmetry and little or no scarring or atrophy. This form, while not common, is of importance; for while it may clear with no or almost imperceptible scarring, it must be handled with caution as it is quite apt to undergo transition to a more acute systemic type. Lupus erythematosus tumidus, as described by Gougerot and Burnier,[41] is a sub-variety of this type.

From limited experience with symmetrical centrifugal erythema it appears that this form may eventuate into chronic discoid lupus erythematosus or represent a mild subacute variety with skin lesions of limited extent. Further study is needed to determine its proper nosological position.

Likewise, lupus pernio (Hutchinson) (chilblain lupus) does not easily fit either of the four groups. This type consists of erythematous plaques of exposed areas aggravated by cold weather and is not to be confused with lupus pernio (Bessnier), a form of sarcoid.

The above classification is not intended to be rigid or static. Rather it should be dynamic. The disease is capricious. Since the difference between the two types of the systemic variety is merely one of degree, one may insidiously evolve into the other. Moreover, transition from the chronic varieties into one of the systemic types is well known.[42] Transition from the chronic to the systemic type may occur within a few months after onset or as late as 29 years.[20d] This, however, does not preclude the placing of each case in its proper facet according to manifestations present at the time of examination.

This classification is in essential agreement with that used in the symposium on lupus erythematosus, held at the meeting of the Bronx Dermatological Society, December 15, 1949.[43]

PRESENT STUDY

Biopsies from 213 cases of lupus erythematosus were analyzed as to the reliability of the histologic characteristics for differentiating the various types of lupus erythematosus, to-wit: chronic discoid, acute, and subacute. In the chronic discoid form, the epidermis still tends to show a fair amount of atrophy, but there is also some tendency to acanthosis. The keratin layer is well developed with an occasional slide showing severe hyperkeratosis. More than 50 per cent of the biopsies from the chronic discoid type show well developed plugging. There is slight edema of the basal layer in about 75 per cent, usually in the form of intracellular edema.

In acute lupus erythematosus the epidermis is usually atrophic, with a fair amount of edema of the rete, principally in the basal layer, and occasionally enough to cause blister formation or crusting. There is essentially an absence of plugging and only a thin keratin layer. In the subacute form there may be a little less atrophy; the edema, although present, is more closely restricted to the basal layer. The keratin is still only slight with only an occasional well developed plug.

In the cutis of the chronic discoid form the superficial infiltrate is variable in its location, amount and type but the deeper infiltrate is the striking feature and usually consists of dense masses of small monocytes (lymphocytes) and relatively few larger monocytes. In the acute type, the infiltrate is usually rather sparse and superficial, while in the subacute variety the infiltrate tends to increase in amount and extends somewhat deeper. In the acute and subacute types there is more tendency to fibroblasts or fibrocytes in the upper layers of the cutis. This

may be a secondary phenomenon, due to the fact that the function of the epidermis is disturbed. In the cutis most of the acute cases show rather advanced edema; in 50 per cent of the subacute cases there is a fair amount of edema and in 25 per cent of the chronic discoid there is some edema, but it is usually less than in the more acute forms. The edema is principally in the upper third of the cutis. It is to be noted that the amount of dilatation of blood vessels (principally capillaries) and the amount of collagen are essentially the same in all three forms. It is not a good differential feature, but frequently marked senile elastosis is better developed in the chronic discoid type because in this type the biopsies are usually taken from the exposed parts.

Briefly, the acute type tends to show atrophy and edema of the epidermis and edema of the cutis with slight superficial infiltrate, while the chronic discoid shows less atrophy, a better developed keratin layer with plugging, less edema and occasionally some acanthosis. As the lupus erythematosus becomes more acute the edema of the cutis increases and the infiltrate decreases unless the epidermis becomes physiologically deficient so that a secondary infiltration occurs. In the more chronic forms the edema in the cutis decreases and the infiltrate increases so that in the well developed chronic form there is a fairly marked superficial and well defined deep infiltrate, which is fairly characteristic.

Figs. 1, 2, and *3* are examples of the histologic pictures of chronic discoid lupus erythematosus, subacute lupus erythematosus, and acute lupus erythematosus respectively.

It is to be noted that the series of biopsies were sent in by many different dermatologists so that all the cases could not be properly followed and clinically appraised by the authors.

On the basis of histologic findings, twenty-five cases were diagnosed as acute disseminated lupus erythematosus. Of these, 15 had characteristic clinical and laboratory findings of acute systemic lupus erythematosus, and nine are known to have died of the disease. Therefore, in 60 per cent the histologic diagnosis agreed with the clinical diagnosis. In six the clinical impression was subacute lupus erythematosus; two cases clinically presented widespread lesions but in these the available clinical data were insufficient for classification as to the type of disseminated lupus erythematosus. The remaining two cases were merely diagnosed clinically as lupus erythematosus without indication as to the extent or severity of the disease. In none of the cases diagnosed histologically as acute lupus erythematosus was there a clinical diagnosis of chronic discoid lupus erythematosus.

Of twenty-five cases diagnosed histologically as subacute lupus erythematosus, four (16 per cent) were so diagnosed clinically. In three cases the clinical impression was acute lupus erythematosus; in eight there were disseminated lesions but without sufficient data for designation of type; in five the clinical impression was chronic disseminated lupus erythematosus; three were diagnosed chronic discoid lupus erythematosus; and two were diagnosed lupus erythematosus, but available data does not show the extent or severity of the disease. Two patients in this group are known to have died of the disease. One was diagnosed clinically as having acute lupus erythematosus; the other was diagnosed as having chronic disseminated lupus erythematosus at the time biopsy was taken, but the patient later showed typical clinical pictures of acute systemic lupus erythematosus.

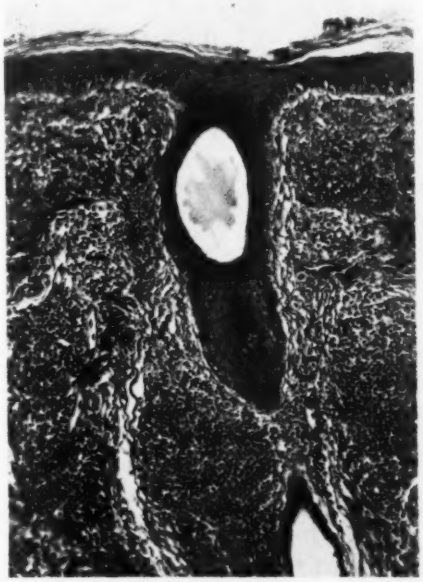

Fig. 1

Chronic discoid lupus erythematosus, low power, normal layer of keratin. Fairly marked atrophy of epidermis with moderate edema in the basal layer. Some senile elastosis and dilated capillaries in the upper cutis. The high infiltrate is rather sparse, but deeper there is a fairly well defined dense infiltrate consisting mostly of small mononuclears (lymphocytes) and a few large monocytes. Typical histologic picture of chronic discoid lupus erythematosus.

In one hundred sixty-three slides the histologic impression was of chronic discoid lupus erythematosus. Clinically 132 (81 per cent) were diagnosed as chronic discoid lupus erythematosus; nineteen (11.6 per cent) as chronic disseminated lupus erythematosus; four as disseminated lupus erythematosus without designation as to type; six as subacute lupus erythematosus; one as acute lupus erythematosus without indication of extent or severity. There were no known deaths in this group and the patient diagnosed as having acute systemic lupus erythematosus was known to be alive one year following the biopsy.

Fig. 2

Subacute lupus erythematosus, low power, shows a slight increase in the keratin layer. The epidermis is atrophic with a fair amount of edema in the basal layer. The edema of the basal cells continues on around the basal layer of the hair follicle. There is some dilatation of the capillaries in the upper cutis. The moderate infiltrate consists mostly of small mononuclears and a few fibroblasts. This pathologic picture is compatible with either the acute or the subacute stage. The lack of extreme atrophy, the mild edema of the basal layer and the moderate amount of infiltrate is more suggestive of the subacute form.

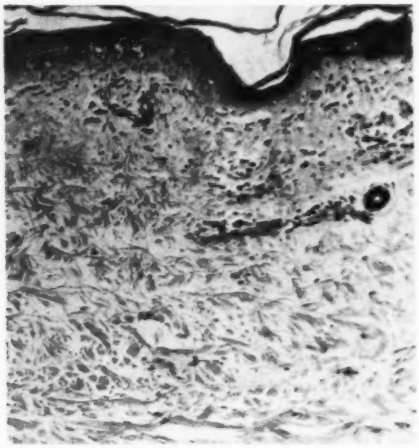

Fig. 3

Acute lupus erythematosus, low power, normal keratin layer. There is extreme atrophy of the rete with marked intracellular edema in a distorted basal layer. Below the epidermis there is a sparse infiltrate, consisting of small mononuclears, fibroblasts and fibrocytes. There is slight dilatation of the blood vessels. Note the lack of deep infiltrate.

SUMMARY

An appeal is made not to make a diagnosis of disseminated lupus erythematosus without the use of qualifying terms classifying the type as chronic discoid, chronic, subacute or acute. The various classifications are discussed.

In a study of biopsies from 213 cases of lupus erythematosus it was found that the subacute and acute forms can be readily differentiated in most cases from chronic discoid lupus erythematosus. The more acute cases also can be readily differentiated from the subacute and chronic disseminated cases. Subacute or chronic disseminated forms histologically are difficult to differentiate.

In acute cases the important histologic features are the atrophy of the epidermis, the edema in the basal layer and upper cutis, and the amount and type of the superficial cellular infiltration with the lack of deep cellular infiltration. In subacute cases there is less atrophy and edema of the epidermis, less edema and more cellular infiltration in the cutis particularly in the deeper part. In the chronic discoid type, the epidermis is frequently atrophic and there is usually less edema in the epidermis and cutis. The deep cellular infiltration is rather characteristic and arranged in dense, well defined masses.

CONCLUSIONS

The diagnosis of disseminated lupus erythematosus should not be made without a qualifying term to tell whether the disease is chronic, subacute or acute.

A technically well performed biopsy is an important aid in diagnosing and in classifying the forms or types of lupus erythematosus.

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DISCUSSION *(Abstract)*

Dr. Winston U. Rutledge, Louisville, Ky.—The only additional diagnostic aid that I can add to Dr. Ellis' very inclusive paper is that in certain cases of disseminated lupus erythematosus, where there are few skin manifestations, but gastro-intestinal symptoms suggesting an acute abdominal condition, Dr. Harry Arnold, of Honolulu, has called attention to the fact that there is a widening of the Weltmann coagulation band in lupus erythematosus, and not in any of the acute exudative diseases involving the abdomen.

Dr. Ellis has given us all of the clinical manifestations of the various types of lupus erythematosus, and has gone thoroughly into the histopathology. Such excellent histopathologists as Montgomery, Michaelson and McCarthy say there is no characteristic histologic picture which classifies the type of lupus erythematosus, but the combination of microscopic findings in sections will usually permit a diagnosis. On the other hand, according to Montgomery, the histologic diagnosis is often difficult because the age of the individual lesion is more important than the variety of the disease in determining the microscopic picture. Classification must be based on the degree of atrophy and edema in the epidermis, the presence of colliquative degeneration or liquefaction necrosis in the basal layer; and, further, on the amount of edema and the degree and type of infiltration in the papillary body and in the deeper layers of the corium. It is necessary to put all of these elements together in evaluating the final picture and then if you are a better than average histopathologist, you may obtain a fairly high percentage of correlation between the clinical and histologic findings. As Dr. Ellis reports, in the sections from the clinically acute cases that he examined microscopically, he agreed in 60 per cent of the cases with the clinical diagnosis. In the subacute cases, and I imagine many dermatologists and histopathologists would have difficulty in distinguishing the subacute from the acute, he was in agreement in only 16 per cent, while in the chronic discoid type, which constitutes our main problem, he was 81 per cent successful. It seems to me that these figures reflect much credit on his comprehension of this condition.

Dr. David G. Welton, Charlotte, N. C.—This mysterious malady continues to provoke much thought and discussion whenever dermatologists get together. My first comment pertains to one clinical manifestation of lupus erythematosus which was not mentioned in their classification; namely, the superficial macular type which is often limited to the face and which does not present clinical evidence of atrophy and does not become generalized. I think this should be included in any classification of lupus erythematosus.

I agree that the term "systemic" is preferable to the term "disseminated," but we should recognize that there may be one or more systemic factors responsible for all types of lupus erythematosus. Therefore, the term "systemic" does not properly differentiate a localized clinical picture from a generalized clinical manifestation.

Dr. Ellis' observation that there is more atrophy in the acute and subacute types, microscopically, than in the chronic discoid type surprised me. My impression has been that what we consider the typical discoid lesion showing visible atrophy clinically would also show more atrophy microscopically than the "disseminated" types.

In reviewing some of our sections of lupus erythematosus with the general pathologist, we have noted in the chronic discoid lesions less edema in the upper cutis than Dr. Ellis reports. We found that the infiltrate was quite variable, both in density and depth, and in some of our sections, it seemed to be just as dense in the subacute disseminated types as in the discoid lesions. The fact that we have not looked at nearly so many sections as he has may explain these differences.

In closing, I should like to read a quotation from a paper given by the late Dr. George Belote at the First Annual Meeting of the American Academy of Dermatology and Syphilology, which was held in St. Louis, I believe, in 1938. After reviewing the subject, he closed by saying, "It is my concept that these patients had in the background an unknown factor or factors, which I have earlier designated as 'X.' Owing to certain trauma and an inhibited leukocytic defense, this factor goes on a rampage. If along with the visceral damage it produces a cutaneous eruption, lupus erythematosus or erythema multiforme is diagnosed. If not, it goes into some other category and may eventually be dug up by other work in pathology."

Dr. Richard S. Weiss, St. Louis, Mo.—Dr. Ellis has been importuning us for the last two years to give him an explanation of the difference between acute and subacute disseminated lupus erythematosus. His slides show that he knows the difference. They are labeled acute lupus erythematosus and subacute lupus erythem-

atosus. It is a difference of degree. They are the same disease.

Many years ago, I was an intern in a general hospital and we saw many cases of typhoid fever. Some of them were very sick, others had what was then known as the light touch of typhoid but they had typhoid. There was a difference of degree there. The same thing happens in lupus erythematosus disseminatus. The subacute cases are not light cases because invariably they become acute disseminated lupus erythematosus and they die just as do those whom we diagnosed as acute lupus erythematosus. It is only a difference in degree, and I think that is the way all of us make the distinction between acute and subacute. There is no real way of distinguishing by the sternal marrow or the *in vitro* Barnes-Moffatt test. When the patients have the acute form, we invariably get a positive *in vitro* test. In the subacute form, we have about 33 per cent positive results.

We are trying to correlate the finding of the lupus erythematosus phenomenon with the degree of illness, so that we may have a method of distinguishing between subacute and acute, but so far we have no exact correlation. That there is a difference histopathologically, Dr. Ellis has shown you on his slides. However, to answer his question, once and for all, it is a question of degree and not of kind. We believe that the subacute and the acute disseminated lupus erythematosus are the same disease, and in our experience they all have the same fatal ending.

Dr. David I. Macht, Baltimore, Md.—I have been interested in a study of pseudo-Wassermann or so-called "heterophil" reactions in various conditions and more particularly in mononucleosis and lupus erythematosus, because I am employing a new phyto-pharmacologic technic in studying such reactions. For this reason I should like to ask Dr. Ellis what percentage of his extensive series of patients gave such a pseudo-Wassermann reaction.

Dr. Ellis (closing).—As to the question of the age of the lesions, I often wonder whether we know how old a skin lesion is when we first see it, even though the patient says he had it for a week or a month. Possibly all lesions, when they are very early, cannot be diagnosed clinically or histologically. This applies to many diseases, even psoriasis in the first week. To get around this, one would have to say that we considered only well developed lesions.

The superficial macular type we did not consider as a separate type. It is certainly an early stage which is superficial and macular. We saw several of these this summer that showed a good histologic picture of lupus erythematosus, but they disappeared following biopsy. Therefore, were they lupus erythematosus? I agree with Dr. Welton, even chronic discoid lupus erythematosus apparently is a systemic disease, and there is more and more evidence to support this fact.

What I was actually trying to do is get somebody "to stick his neck out" and give me a good differential between subacute and acute lupus erythematosus. I agree with Dr. Weiss that I do not know a sharp differential.

We did not take up the problem of biologically false positive reactions.

SIMPLE DISC SURGERY VERSUS THE COMBINED OPERATION*

By GEORGE J. GARCEAU, M.D.
Indianapolis, Indiana

Backache with radiating pain continues to offer a real challenge to the orthopedic and neurosurgeon. Improved methods of study, especially better interpretation of myelograms, has resulted in a large percentage of accurate diagnosis, but the incidence of unsatisfactory postoperative results warrants further study and evaluation of the methods of treatment. Many of our patients recovered from the symptoms of herniated intervertebral disc before the advent of the surgical treatment. Therefore, we usually follow a conservative method of treatment for several weeks before we recommend surgical intervention.

The indications for resection of the herniated intervertebral disc are well established. However the indications for combining the operation with a spine fusion are not clear in many instances. Fusion of the painful joint for relief of pain is almost axiomatic among orthopedic surgeons. This is especially true of the hip and knee joints. Can this principle be applied to the joints of the spine without qualification? There is much in the literature which supports this opinion. The contrary is also true.

For several years we have studied our series of patients. The results of these yearly studies have not been very encouraging or conclusive. Some patients reported excellent results for several years and then suffered a recurrence of the symptoms. Others reported continued pain but finally recovered.

Two groups of patients are included in this study, a total of 218 patients. The simple operation was performed upon 133 patients and the combined operation upon 85 patients. The number of operations is not the same as the number of patients because some patients were operated upon two or more times for various reasons.

There were 132 men and 86 women. The duration of the symptoms varied from a few weeks to 30 years. Seventeen patients had experienced symptoms for between 20 and 30 years. Fifty-three patients had suffered inter-

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mittent attacks for many years but less than 20 years.

It was possible to examine the roentgenograms in 165 cases. *Table 2* lists the abnormalities which could be definitely observed.

The patients who presented the commoner abnormalities were evaluated and are listed in *Table 3*. The number of cases is too small to draw conclusions but the results are nevertheless interesting.

Myelographic examination was done in a small number of patients in both groups. At the present time we do a myelographic examination if we anticipate surgery. A great deal of information may be obtained by this procedure.

There were 25.4 per cent negative myelographic examinations. The high incidence is due to faulty interpretation of the myelograms which were performed several years ago. The percentage of positive myelograms is now much higher.

An evaluation of the postoperative results has been made. The two groups may be compared. One hundred nineteen of the 218 patients were operated upon five or more years ago. We do not report the results as final because the statistics are constantly changing.

An excellent result is one in which the patient is entirely free of symptoms. A fair result is one in which the patient has residual symptoms but is fairly well satisfied, is about normally active and has returned to his original occupation. A poor result is one in which there has been little or no relief.

AGE DISTRIBUTION BY DECADES

10 to 19	9
20 to 29	34
30 to 39	96
40 to 49	40
50 to 59	13
60 to 69	5

Table 1

	Unfused	Fused	Total
Facet asymmetry	3	3	6
Sacralized fifth L	8	4	12
Lumbarized first S	1	1	2
Narrow interspace	16	9	25
Arthritis	11	8	19
Spina bifida	2	1	3
Fracture	1	0	1
Scoliosis	1	1	2

Table 2

Unfused Group				Fused Group		
Excellent	Fair	Poor		Excellent	Fair	Poor
6	1	1	Sacralized fifth L	1	2	1
1	0	0	Lumbarized first S	1	0	0
7	7	2	Narrow interspace	7	2	0
3	6	2	Arthritis	6	2	0
1	1	0	Spina bifida	0	0	1

Table 3

	Unfused	Fused
Negative	8	4
Positive L 3	0	2
Positive L 4	14	4
Positive L 5	9	12
Positive L 4 and 5	2	0

Table 4

DISCUSSION

Although the two groups are rather small we believe some conclusions may be attempted. They represent the experience of one operator, and therefore do not represent a cross section of the experience of surgeons in a community.

A glance at *Table 5* reveals that the results in the unfused group are about the same as those in the fused series. Spines showing abnormalities such as transitional vertebrae, narrowed interspaces, arthritis and spina bifida do well with the simple operation. The narrowed intervertebral space may be an indication for spine fusion even if the spine appears stable at time of operation. Recently we have observed patients with instability of the spine due to insufficiency of facets. This is certainly an indication for fusion. These cases are not included in this study. The patients with arthritis seem to do better with spine fusion. However spine fusion does not prevent further progress of the arthritis, nor does it prevent herniation of a disc above the area of fusion. If a patient is reoperated upon for the original symptoms and recurrence of the same disc then the spine should be fused.

The unfused group indicates acceptable results in 83.3 per cent of the patients which compares favorably with the 80 per cent in the fused series. It seems reasonable to believe that a considerable number of the fused group would have obtained satisfactory results had they not been fused.

Certainly many patients are subjected to spine fusion without sufficient indications.

Pseudo-arthrosis continues to worry the orthopedic surgeon and the patient. A person with a pseudo-arthrosis is worse off usually than if he had not been fused. Repair of the unsound fusion is not always successful. We have purposely destroyed an unsound fusion on two occasions with gratifying results. We therefore believe that the spine should be fused only when there are unquestionable indications. Spondylolisthesis with disc herniation has been excluded from this study because we believe it is a definite indication for spine fusion.

UNFUSED GROUP

Excellent result, patient free of symptoms.

Fair result, patient has residual symptoms but is normally active and has returned to original occupation.

Poor result, little or no relief.

There were 138 primary operations performed upon 133 patients. Five of these patients had a second operation for a disc at a different level.

Excellent results	87 patients or	63 per cent
Fair results	28 patients or	20.3 per cent
Poor results	23 patients or	16.7 per cent
	138 patients	100.0 per cent

Reoperated upon for original symptoms, not fused

Excellent results	1
Fair results	3
Poor results	3
	7

Reoperated upon and fused for the original symptoms

Excellent results	1
Fair results	6
	7

Reoperated upon for a disc at a different level

Excellent results	4
Fair Results	1
Poor results	0
	5

FUSED GROUP

Excellent results	51 patients or	56.7 per cent
Fair results	21 patients or	23.3 per cent
Poor results	18 patients or	20.0 per cent
	90 patients	100.0 per cent

Fusion sound, established in 35 patients; 28 excellent and 7 fair.
Fusion unsound in 10 patients, all poor results.

Reoperated upon for original symptoms

Excellent results	1
Fair results	5
Poor results	1
	7

Table 5

CONCLUSIONS

(1) The simple disc operation is satisfactory in a large percentage of cases.

(2) Transitional vertebrae, instability of the spine due to insufficiency of the facets and arthritis may be considered indications for spine fusion. Each patient presenting these physical findings should be studied carefully before the decision is made.

(3) A narrow intervertebral disc space is a questionable indication for spine fusion.

(4) Spondylolisthesis and spondylolysis are definite indications for spine fusion.

(5) Indications for reoperation for symptoms from the same disc level are usually indications for fusion.

(6) Reoperation for a second disc at a different level is not an indication for fusion.

(7) Myelographic examination is advisable for accurate localization of the disc and to determine whether more than one disc exists.

DISCUSSION (*Abstract*)

Dr. J. Albert Keys, St. Louis, Mo.—I frankly do not know when a spine should be fused and when it should not.

Of late years, after exploration and failure to find a disc, I have been fusing the spines which presented a narrow space with eburnated articulated surfaces of the adjacent vertebrae.

In other words if I operate upon a patient and do not find a pathological disc, I do not know just what to do. A few of my best results have been in patients whom I operated upon and in whom I did not find a disc and did not do anything but explore the canal and close the wound.

And, of course, as with everyone else some of my poorest results have been those upon which I operated, found little or no abnormality but took a disc out.

I assume that all of these cases that were fused were first explored for a disc. Dr. Garceau did not say whether a pathologic disc was found. He did not say anything about negative myelograms.

We do myelograms, not often on the cases that I am going to operate upon, but upon the cases that others will operate upon. They like to do them, I do not.

I think that sometimes the myelogram is worse than the operation. At least, our patients frequently tell us that.

We do our operations under local anesthesia and they do not seem to upset the patient very much.

Do you explore your spondylolisthesis cases for discs and what vertebrae do you include in your fusion?

If you have a disc between 4 and 5, do you fuse 4, 5 and sacrum? And if you have a disc between 5 and 1, do you fuse only 5 to the sacrum?

Dr. James Albert Brown, Houston, Tex.—It seems to me that the chief thing that I get out of this paper is that a long fifth lumbar transverse process on one side is not important, and most of us have considered that important.

I think that a myelogram should be done. In the first place, I am good at localizing these things but I find often that I am wrong. I see a fair number of multiple discs also. I would say somewhere in the neighborhood of 20 per cent.

Dr. Garceau (closing).—This series of patients includes only those who had a herniated disc proven at the time of operation. We have 12 per cent negative myelographic examinations. We are now doing a myelographic examination on all patients if operation is anticipated. I do not feel that I can diagnose the level of a disc very accurately by physical examination alone. Myelographic examination is a part of the study done to reach a diagnosis.

Patients with spondylolisthesis are excluded from this study because we were searching for indications for spine fusion. We recognize spondylolisthesis as an indication for spine fusion.

Dr. Brown's question regarding fusion in patients having a sacralized fifth lumbar vertebra is difficult to answer because our group is small. There were eight such patients in the unfused group with six excellent results. In the fused group there were four with one excellent result. However, we conclude that a transitional vertebra may be an indication for spine fusion.

ESOPHAGEAL ATRESIA AND TRACHEO-ESOPHAGEAL FISTULA*

REPORT OF CASE

By LEROY J. STEPHENS, M.D., M.Pd., F.A.A.P.
St. Louis, Missouri

Embryology. — The esophagus is developed from the first part of the primitive gut, its upper part from the retropharyngeal segment and the lower from the pregastric segment. As the neck differentiates and the heart and lungs push the stomach caudad, the esophagus elongates rapidly. Vacuoles appear by the eighth week in the epithelium to form a lumen. During the fourth week the laryngotracheal groove develops to become a larynx, trachea and the primordia of the lungs. Two furrows course longitudinally along the sides of this respiratory primordium and cut inward deeper and deeper, until they separate it from the esophagus. This separation contrary to the general rule, progresses in a cephalic direction with the result that the lung bud is the first to become free. Congenital anomalies develop through a failure of one of these critical steps to be completed correctly and vary from a complete absence of the esophagus to a duplication throughout its entire length.

Ladd and Swenson have divided esophageal atresia and tracheo-esophageal fistula into five types:

(1) The upper portion of the esophagus ends in a blind pouch in the region of the first or second dorsal vertebrae and the lower segment begins again in a blind pouch at the level of the fourth or fifth dorsal vertebrae.

(2) The upper segment of the esophagus ends in a fistulous tract entering the trachea just above its bifurcation and the lower segment begins as a blind pouch.

(3) The upper segments end blindly but the lower segment is connected to the trachea just above its bifurcation.

(4) The upper segment ends blindly but the fistulous tract of the lower segments enters the trachea at its carina instead of just above its bifurcation.

(5) Both the upper and lower segments communicate with the trachea.

The following case represents type 3 of the above classification.

J. T., a female infant, was delivered at 10:20 a.m., April 26, 1950, at St. John's Hospital. Her birth weight was five pounds, four ounces. At twelve o'clock noon of the same day the resident was called to the nursery because of the marked collection of mucus in the mouth and throat of the infant. The child was active and her color good.

Since a lavage tube could not be passed, x-rays were ordered.

The radiographic report is as follows: "Radiographs of the chest and abdomen show a tube overlying the upper esophagus which is coiled several times. Following injection of iodized oil there seems to be some dilatation in this area but no iodized oil is seen in the mid or lower esophagus, in the stomach, or in the lungs. There are gas-filled loops of intestines, and there is gas in the stomach. If this is an atresia there is a lower communication with the trachea or bronchus. The lungs appear essentially clear."

At 8:35 p.m. on the same day, or at approximately ten hours of age, the child was operated upon with a preoperative diagnosis of congenital tracheo-esophageal fistula of the classical type. The surgeon, Dr. James L. Mudd, made a right anterior approach. The fourth rib was resected and the right lung retracted. The blind

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upper pouch of the esophagus extended almost to the bifurcation. The distal esophagus was exposed, doubly tied and the fistula severed. A catheter was inserted into the pouch and down into the distal esophagus and an end-to-end anastomosis done using interrupted 5-0 silk. The chest wall was closed in layers, a pessar catheter brought out through a stab wound, and the lung expanded by means of increasing pressure.

The immediate postoperative condition was good.

After arrival on the division the child was placed in an incubator, continuous oxygen, continuous venoclysis, adrenal cortical extract 0.5 cc. twice a day, vitamins K and C every twelve hours and penicillin once daily. A Wangenstein suction, set on low, was connected to the chest tube.

On April 27, 1950, the first postoperative day, a moderate swelling of the right leg was noted. This was the site of the venous cut down. No redness or warmth was noted, nor was there elevation in body temperature.

On April 29, the red count was 4,450,000, and hemoglobin 13.5 grams. Vitamin K was discontinued.

At 8:00 p.m. on the evening of April 30, slight cyanosis of the circumoral area, hands and feet was noted. Respirations and breath sounds were normal, and no rales were audible. The right leg was very swollen, red and hot. The venoclysis was discontinued and it was decided to try oral water to determine the necessity for another venoclysis. Five cc. were given by medicine dropper successfully. The baby then nursed 10 cc. eagerly from a bottle with no difficulty. The baby was placed in Fowler's position and the color improved. An x-ray of the chest the following morning showed that the lungs were well expanded with no abnormality of the chest noted. Fluid was in the stomach.

After the report of the radiologist, regular dilute feedings were started, two ounces every two hours.

On May 2 the infant was weighed for the first time since birth. The weight was five pounds, eleven ounces.

The course until May 8 was uneventful. Adrenal cortex had been cut to once daily, intramuscular crude liver and B vitamins were given every third day and a stronger formula was given, three ounces every three hours.

On May 8 the baby developed considerable mucus in the nose and throat. Physical examination of ears, nose, throat and chest was negative. Neosynephrine® 1/8 per cent, and sulfadiazine, one grain to the pound, was ordered prophylactically.

On May 9, a very hoarse cough developed, and marked injection of the throat, muscular twitchings, nystagmus, temperature of 104,° diarrhea (seven liquid stools) and dehydration all appeared within twenty-four hours.

X-ray of the chest showed the lungs well expanded with slight haziness over the right chest.

Blood calcium was 8 mg. per cent. Red count was 3,680,000, hemoglobin 11 grams. White count was 29,700 with stabs 19, segmented forms 56, lymphocytes 12, monocytes 10, and eosinophils 3.

The formula was discontinued and weak tea and 5 per cent glucose were given by mouth. Because of developing and deepening cyanosis the baby was replaced in oxygen, with 5 per cent glucose in lactate Ringer's being given by venoclysis. Chloromycetin suppositories 50 mg. per kilo body weight were started.

On the afternoon of May 10, generalized twitchings, much thick mucus and cyanosis developed with a normal temperature. Sedation with sodium phenobarbital was ordered; dihydrotachysterol was given two drops three times daily and calcium gluconate was added to each feeding. The child continued to have convulsions irregularly through the day.

On May 12, the twitchings had completely disappeared, the diarrhea was checked, the dihydrotachysterol and calcium gluconate were discontinued. The abscess in the right leg was incised and 10 cc. of thick pus was drained. Culture showed Pseudomonas aeruginosa.

Feedings with a stronger formula were started and the weight of the child was recorded as five pounds, fifteen and one-half ounces, eleven and one-half ounces above her birth weight on the sixteenth day of her life.

From this point until discharge from the hospital June 17, the course was more or less uneventful except for the frequent accumulation of mucus which responded to aspiration.

The child received two transfusions to correct a slight anemia. Her weight at the time of discharge was nine pounds, one ounce.

Diagnosis at the time of discharge was:

(1) Esophageal atresia with tracheo-esophageal fistula of the classical type.
(2) Abscess of the right leg.
(3) Diarrhea.
(4) Febrile convulsions.
(5) Prematurity.
(6) Anemia of prematurity.
(7) Probable pneumonia.

Barium swallow October 13 showed the barium passing readily to the stomach. There was a constriction in the upper esophagus at the level of the aorta but this did not obstruct the barium.

Growth and development have been normal to date with solid foods being added to the diet at regular intervals. Vomiting or regurgitating has not been reported. Weight November 13 was sixteen pounds, ten ounces.

PULMONARY ARTERIOVENOUS SHUNT AND ITS CLINICAL IMPLICATIONS*

By PETER G. DANIS, M.D.
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Pulmonary arteriovenous shunt is usually the result of a congenital maldevelopment of the pulmonary blood supply. Such lesions are called angioma, cavernous hemangioma, and arteriovenous varix or aneurysm. They are not malig-

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nant, but belong to the same family as angiomatosis of the skin and mucous membrane elsewhere. They are frequently familial. The true communications which produce the shunt may be present at birth or develop thereafter. An excellent review of the subject has recently been written by Yater, Finnegan and Giffin,[1] in the *Journal of the American Medical Association.* It suffices here to say it was first described in 1897 by Churton[2] on the autopsy table, but it was not clinically diagnosed until 1939 by Smith and Horton.[3] Since this time it has become more frequently recognized as a result of the improved means of establishing an absolute diagnosis. This is done by angiographic study.

The condition may present itself fully developed in the newborn, or gradually develop through life to be a clinical problem. It may be relatively confined to one lobe of the lung or it may be widespread with many interlocking channels throughout the entire lung. The duress of life and respiratory disease may cause degenerative changes increasing the number as well as the size of the intercommunicating channels. Its anatomical location makes this possible and also makes it a serious problem to the patient, and it might be added that, since frequently the condition can be corrected only by total pneumonectomy, it is very formidable from a surgical viewpoint.

Pulmonary hemorrhage is, from the statistics in the literature, always a potential hazard. As the intercommunication of arterial and venous blood develops, an anoxia results, and with this all the symptoms and signs thereunto. This makes it significant to the pediatrician in this age of consciousness of congenital heart anomalies; for it presents a clinical picture of the blue baby, that is, cyanosis, clubbing of the fingers and polycythemia, though nothing necessarily may be wrong with the heart. A murmur is heard, systolic in time, over the anterior chest. On close inspection, it is most striking over the area of the lesion. However, if one is not aware of this condition, it may easily be misinterpreted as directly associated with the heart. The proper diagnosis can be quite sensational, since pneumonectomy first performed by Hepburn and Dauphinee[4] in 1942 has proven to be satisfactory surgery for the condition, with the alleviation of the physical findings and symptoms just mentioned. Surgery would certainly be unequivocably indicated in the presence of these findings of cyanosis, clubbing, polycythemia or epistaxis. But these symptoms may develop only after a considerable period of time. Only by alertness on the part of the radiologist and the pediatrician may an early recognition of the problem be possible. The patient may have only symptoms of prolonged respiratory infection. If this is associated with a density in the lung field which is persistent for a long time on repeated x-ray examination, angiography is indicated. Angiograms will complete the diagnosis decisively.

The variations in the findings can be understood best from the underlying pathology. These arteriovenous hemangiomata are composed of a distended thin-walled afferent artery and distended efferent vein with intervening loculated vascular sacs or labyrinth of distended vessels. These components become gradually more dilated and degenerative changes may occur. This causes intercommunication. These intercommunications become dilated and true fistulae develop, and arteriovenous shunt results. Many become distended and they rupture into the parenchyma or to the pleural surface with hemorrhage.

I wish to present, first, the case of a female child who was born weighing six pounds and fifteen ounces, and cyanotic. The cyanosis remained continually during the next two years, and during this time her weight gain was satisfactory up to ten months, when it began to approach a stationary level. From one year to eighteen months her total gain was only one-half pound. The baby weighed nineteen pounds at one year and weighed only twenty-one pounds at two years of age. The child had a systolic murmur which extended to both sides of the sternum. At six months of age her red blood count was 4,800,000, with 70 per cent hemoglobin. At one year of age the red blood count was 6,740,000 with 85 per cent hemoglobin. Respiratory infections began to plague the child repeatedly. As a result, at fifteen months of age, an x-ray film of the chest was obtained. This x-ray revealed a dense mass in the right middle lobe. At eighteen months, three months later, the mass was still present, although the child had no symptoms or physical signs of infection. The red blood count, at this time, was 7,970,000, and the hemoglobin 90 per cent. The systolic murmur seemed to be louder over the area of density as seen in the roentgenogram of the chest. On the recommendation of Dr. LeRoy Sante, the radiologist, angiograms were obtained. Examinations of these pictures made the diagnosis of arteriovenous hemangioma of the right lung, with obvious fistula and shunt. Dr. J. L. Mudd performed a pneumonectomy when the patient was two years of age, removing of necessity, because of the extent of the varix, the entire contents of the right chest. She made an uneventful recovery from the operation, has had two moderately severe respiratory infections since, and has survived these satisfactorily. Her cyanosis has disappeared, her

red blood count is 4,330,000, and her hemoglobin 64 per cent.

As a result of this experience, when a female child, age three, weighing thirty pounds, thirty-eight inches tall, was referred with a history of respiratory distress out of proportion to infections present in duration and frequency, a roentgenogram of the chest was obtained. In this was observed an increased density in the right hilar region, which seemed to pulsate when examined fluoroscopically. When this area of density persisted on roentgen examination two months later, an angiographic study was advised. The angiograms revealed a definite finger-like projection from the right hilus region extending into the right middle and lower lung. This child, however, is asymptomatic at present. Surgery is held in abeyance with the hope that she will continue to grow physically before it is necessary to proceed further remedially. This is with the full realization that hemoptosis or cyanosis will immediately change our conservative approach.

In conclusion, I should like to emphasize the existence of pulmonary arteriovenous shunt as one of the etiologic factors of the blue baby, of which we should ever be aware. When such a baby is presented to us, we should observe and listen, keeping in mind the possibility that murmurs may exist elsewhere than directly over the heart. Pulmonary hemangioma may be of little significance to the patient for a time, but it is potentially a cause of serious pulmonary hemorrhage as well as arteriovenous shunt, resulting anoxia polycythemia, and even cerebral thrombosis. It is important to establish a positive diagnosis by angiography before such symptoms develop.

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WRITING*

A RENEWED OBLIGATION FOR THE GENERAL PRACTITIONER

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After this paper was planned, Dr. Walter Alvarez in editorials published in the July and August issues of *"GP,"* said much that I have or will have said, and in much better fashion. Dr. Alvarez says that no physician is too busy, or too poor a writer to neglect this important phase of medicine. He gives many illustrations of general practitioners who made great contributions to medical knowledge, and concludes his August editorial with these words:

"All the family doctor needs is a notebook, a great and never ending curiosity, the maintenance of an open mind, and absolute honesty with himself and his readers. He must always be searching for information and for answers to his questions, rather than for proof of some theory. To try to prove a theory often leads to the writing of a bad paper."

I feel that I should mention these editorials because much that Dr. Alvarez said I shall repeat, just as I outlined it last spring.

According to R. B. Davis in *Southern Medicine and Surgery,* abstracted in the *Current Medical Digest*:

WRITE WHAT THOU HAST SEEN†

"In his *Revelation,* with which the Holy Scriptures are concluded, Saint John admonished his colleagues with this bit of philosophy, 'Write what thou hast seen.'

"Let us take to heart the philosophy handed down to us from one so wise, so sympathetic and so human. When one becomes a member of the body of doctors he comes into intimate association with those who believe in writing what they have seen, and he is encouraged to follow in the footsteps of leaders of his profession. His membership should mean to him a great opportunity to prepare and read papers before organizations of doctors. One should not be deterred from presenting his experiences because they were of diagnosis and treatment in a log cabin or in a tenement house instead of the ward of a large hospital.

"It is all too easy for us to be subject to an inferiority complex when thinking about reporting cases. The thought is prone to run something like this: This happened to Bill Jones' wife at Great Bridge. Perhaps it would not happen in the hospitals of the great cities, and who would believe my observations worth anything since I am not connected with any medical school, large hospital or research department. To offset this feeling, consider that a pound of shot and a pound of feathers weigh the same whether it be at a cross-roads store or in the largest department store in New York City. Forget who you are but write what you have seen, and write it accurately, so that other doctors may read and understand, and be encouraged to write what they have seen.

"The art of medicine changes only as human individuals, their aspirations and desires, change."

During the beginnings of American medicine, general practitioners wrote a great deal, as the many publications attest. Often this writing was poorly thought out and inadequately substanti-

*Chairman's Address, Section on General Practice, Southern Medical Association, Forty-Fourth Annual Meeting, St. Louis, Missouri, November 13-16, 1950.

†Davis, R. B.: Current Medical Digest (Oct.) 1950.

ated by facts even though these were readily available, and often the composition was a bombastic attempt to bolster an inaccurate conclusion; many times, however, it was a brilliant report of accurate observations clearly proving the author's thesis or offering some new therapeutic approach resulting from the physician's eternal search for better methods of treatment. The early work of J. Marion Sims is an example of the latter type of medical writing by a general practitioner.

As medical education became greatly improved following the American physician's own actions in improving our medical schools and eliminating diploma mills, and as the work of the Mayos established surgery, physicians began to specialize and to publish a new type of medical writing, that of the group who saw large numbers of patients and whose reports were bolstered by hundreds or thousands of new and highly technical laboratory procedures. This led to the general practitioner's ceasing to write for the medical journals, at least those of wide circulation.

As I look back over my medical education and my experiences in writing while in medical school, recalling conversations with general practitioners whom I have known since my childhood and who began their practices during the early era of specialization, I am impressed by a variety of reasons for the rank and file of medical men ceasing to write for publication. First among the reasons was the fact that medical writing composed of many graphs and tables took too much time for the busy practitioner. Even if he had diagnosed and successfully treated an interesting case he feared that the new order of medical editors would not accept his work, and often if this physician had seen 3 or 4 cases that merited reporting, a lack of microscopic slides and sheer weight of numbers resulted in his work's not been accepted for publication.

The rush of work, and the ever increasing demand upon the time of the gradually diminishing numbers of general practitioners resulted in the neglect of record keeping, especially the accurate data that have been demanded of medical writers during the past twenty-five to forty years. General practitioners of the early decades of this century had not been grounded in the minutiae of record keeping, and as they began to practice they were often forced into the less scientific and more slovenly methods of their already established associates by a fear that a marked deviation from the accepted practices of their community would cost them patients. These physicians neglected to keep accurate records of their patients' complaints and physical findings and the drugs prescribed and often overlooked interesting data that if reviewed later would furnish the basis for a truly valuable conclusion.

The new laboratory medicine was as overwhelming to this vast group of medical men as the newer revelations of organic and atomic chemistry have been to me. They felt that they would never be able to substantiate findings in clinical research without complicated laboratory procedures. Medical school teaching reflected this attitude, as I can well remember being told in 1931 that all of the qualitative facts about human physiology had been discovered and all that remained for my medical generation to do was to measure the established processes quantitatively.

During the medical era that established the specialist as the aristocracy of medicine, he also became established as the medical writer. This came about because of the large numbers of early specialists who were associated with medical schools and teaching hospitals where much clinical material was available to be studied with increasing detail as the laboratories associated with these institutions expanded and developed more and complicated procedures for discovering the normal ranges and variants in biological processes and the alterations that take place when these processes are affected by disease.

The feeling that only quantitative processes of increasing complexity would serve to advance medical knowledge left research and medical writing in the hands of those connected with increasing specialization and departmentalization of medical knowledge. The rank and file of physicians felt that the specialists were the only ones qualified to write about details of diagnosis and treatment. This might have been correct if it had not fostered a feeling of incompetence to make observations upon the general practitioner, and ingrained such a feeling of superiority that the specialists ignored or overlooked scientific clues furnished them by general practitioners.

General practitioners should take time to write, to stimulate their own observations of patients. Nothing is quite so thought provoking

as a careful analysis of the results you have obtained from the treatment of a group of patients with a given set of symptoms and physical findings. Certainly you can evaluate the therapeutic results obtained, no matter where you practice.

Writing about your patients or even thinking you may want to tabulate and study the data will promote greater care in taking and recording histories. Referring to your records to consider the therapeutic results of a specific treatment will bring out many omissions that you will take care to prevent in your future case histories.

As you attempt to keep up with modern medicine you frequently see or hear some statement that is at variance with your ideas about the incidence of a given condition or the results obtained with a certain treatment. Mayo physicians now publish papers in which a group of investigators will say that they have treated 20 patients, rather than hundreds, with such and such results. I can treat my next four or five in that manner and if my results vary much from theirs, feel that their results were published prematurely or that I can say Mayos' 90 per cent cure rate was only 50 per cent in my office. At any rate, I am certain to think a great deal about that type of therapy and to observe my patients more carefully as a result of this study.

A research group in North Carolina may state that they find that eclampsia occurs more frequently in a certain area. I tally up my eclamptics and find that 96 per cent come from a belt that reaches across four West Kentucky counties and that other physicians corroborate my observation. We speculate and observe and reach the conclusion, as in North Carolina, that nearly all of these patients have deficient diets and all of us reduce eclampsia in our practices by better nutrition. Some day five or six of us will have enough data to publish an article about this particular area. Already we wonder whether the dietary lack is all habit, economic, or whether the soil in these hills is especially leached out and deficient in minerals.

We general practitioners should write so that others doing general practice can benefit from our results, and so that we may make generally available the little items that we glean from close association with our patients and their families that better qualify us to care for them. Much that we pass on by word of mouth would be much better reduced to writing and published as case reports, short notes on therapy or notes on the incidence of disease in our immediate area.

Quite often the general practioner makes real medical discoveries before the urban specialists. I think that you all will recall some that were made as the result of independent observation by a general practitioner months before they were commonly accepted or reached the medical literature, even as a series of case reports that might provoke careful controlled research in a teaching institution. To mention a few that were hooted at when first reported by general practitioners will take but a short time.

One was the discovery that amebiasis is a very common disease among the inhabitants of our Southern states. Indeed the first report of this by a Mississippi general practitioner was the occasion for ridicule by many of his colleagues.

Another was the use of sulfonamides in bacillary dysentery. This was common therapy by general practitioners through the South months before it was accepted by medical literature. In my timidity I wrote a leading pediatrician, teaching in a medical school, whose hospital was crowded each summer with babies ill from dysentery. I was assured that as I had not cultured the stools of each child, my decrease in mortality of from 60-80, one-third to one-fourth of the children born in our county each year, to 1 or 2 deaths per summer was not due to treatment with sulfonamide but to the relatively dry summer and few flies in comparison with the preceding years. This hospital did not even try sulfonamides for bacillary dysentery until the following summer.

More than three years before the mixture of dihydro-streptomycin with penicillin was accepted and marketed for the treatment of dysentery, physicians all through the rural South were making use of this combination to treat acutely ill children. The children themselves accepted it before the mass of the medical profession, saying, "I want my penicillin and streptomycin in one shot."

The use of intravenous calcium in insect bites and stings, especially black widow spider bites and insect stings that produce collapse and anaphylactoid reactions, seems to be almost entirely general practitioner discovered and used.

Details of this are in a paper written by and for a general practitioner, but not yet published.

General practitioners often discover disease entities in an entirely different incidence from that encountered by their specialist colleagues. Such man-made factors as a milk-ordinance will change the incidence of brucellosis from 33 per cent in an unprotected county to 0.5 per cent in an adjoining county which has had compulsory pasteurization since 1918.

The spread of endemic typhus up the L & N railroad from Nashville to Bowling Green to Louisville was recognized by general practitioners, and although random agglutinations for typhus in Louisville are 5 per cent positive, more cases have been reported from the rural areas than from that city.

Nontropical sprue was being successfully treated with liver extract by many rural general practitioners during the period of time that the research groups were trying to decide whether such a condition existed.

Good medical writing adds to the stature of the general practitioner. It makes him a more careful and observing physician. Reducing results to writing, that one can expect to have checked and commented upon, makes for better and more orderly thinking and more careful evaluation of claims. Observation over a period of months and years will reduce the "placebo-effect" and help to discover spontaneous remissions among one's cases. One's colleagues respect good work and one's specialist friends will accept the general practitioner's results when they find that he is careful, accurate and temperate in his claims.

Writing and teaching by general practitioners increases the respect accorded them by medical students, and makes it easier for them to interest students in general practice.

Finally may I urge that the general practitioner keep records and write about his results because we general practitioners are now doing the same type of diagnostic and therapeutic medicine that was regarded as the exclusive province of the specialist of 25 years ago. Now that it is recognized that we do good medicine, it again becomes our obligation to write, reducing the results of months and years of family practice and thousands of details of our patients' lives to the printed page for our colleagues, and for the younger men who will follow us.

THE REGIONAL SIGNIFICANCE OF THE DEVELOPMENT OF THE FOUR-YEAR MEDICAL SCHOOL AT THE UNIVERSITY OF NORTH CAROLINA*

By W. R. BERRYHILL, M.D.†
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Five years ago at a meeting of this section of the Southern Medical Association in Cincinnati, a preliminary report[1] was presented on a program just being initiated in North Carolina, which was designed to provide more adequate medical care and hospitalization throughout the state. The ground work for this program was laid, in part at least, by a group of the medical profession. Its development was aided by a comprehensive study of the state's health needs made by a group of fifty citizens, representing all the health professions, business and industry, agriculture, the pulpit, the two races, and the press, whose recommendations to the people of North Carolina were compressed into the slogan that "More doctors, more hospitals, and more insurance" were necessary to improve medical care. Finally the program was implemented by legislative appropriations as a result of widespread popular demand that increased educational facilities for training medical and ancillary personnel and more hospitals be provided in the interest of making available improved health and medical services throughout the state.

It is significant that in an era when it is the popular practice to call on the federal government for help in all problems affecting public welfare, North Carolina set out on its own to evolve a workable plan to improve its health facilities which antedated the enactment of the Federal Hospital Construction Act.[2] It should be said, however, that the remarkable progress to date could not have been achieved without the aid of the funds available from the Hill-Burton Bill.

The expansion of the University's School of Medicine, the establishment of a School of Nursing, and subsequently of a School of Dentistry, together with the existing Schools of Public Health and Pharmacy, to form a medical

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center in its broadest and most comprehensive meaning to train much needed personnel in the health field, and the hospital construction program were integral and related parts of the overall state plan. Each has been administered by separate state boards, the one by the University Trustees and the other by the state hospital authority, called the Medical Care Commission; but there has been mutual or combined support of each other's requests for funds from the legislature. The construction activities in each area have proceeded along parallel lines.

Local Hospital Construction. — The Medical Care Commission in a recent report[3] announced that during the period July 1, 1947 to June 30, 1950 forty-seven hospital projects in the state, adding 2,866 new beds, have been approved. Some of these are complete; the remainder are in various stages of construction.

In 1945 there were thirty-three counties without hospital or health center facilities. When the present projects are complete, that number will be reduced to twenty. The problems incident to the staffing and operation of these institutions are many and varied but cannot be discussed in this paper.

The Medical Center.—The initial appropriation for the construction of a 400-bed University Hospital, as a memorial to the North Carolina dead in World Wars I and II, the enlargement of the existing Medical School Building, facilities for a School of Nursing, and residence halls for nurses and house staff was made in 1947 and because of rising construction costs a supplementary appropriation was granted in 1949 for their completion.

These projects are now under construction and are scheduled to be completed in 1951 and 1952. In addition the Board of Directors of the North Carolina Sanatoria for the Treatment of Tuberculosis plans to build a 100-bed hospital adjoining the University hospital designed primarily as a teaching unit, but it will provide beds for the surgical treatment of tuberculosis and for a chronic chest disease diagnostic service. The Board of Control of the state mental hospitals is planning an 80-bed psychiatric wing to the general hospital. Finally, a health conscious 1949 legislature authorized a dental school at the University and appropriated funds for a dental clinic building.

There are certain implications of a regional nature that are of significance in the developments outlined above. But, first of all, it should be recognized that North Carolina is not a wealthy state by average national standards and that while it has a well earned reputation of being a progressive state, it is soundly conservative in its progressiveness. The developments in the medical field have come as a result of a popular demand for improved medical care after an objective appraisal of the state's deficiencies in medical services available for its people and a determination to improve these services.

The Southern states have long had critical shortages of medical personnel and in personnel in fields ancillary to rendering adequate medical and hospital care. This fact has been emphasized often[4 5] in relation to the function of the Southern medical schools. For too long we have been the "low men on the totem pole" in the health field in respect to men and facilities as we have been in our per capita income. There is no need to repeat here the depressing figures that are well known to most of you dealing with the shortages in the respective states that make up this region.

With the increased awareness of this need and the improving economic status of the South as a whole, several states are expanding existing teaching centers of their state universities, while others have plans in many stages of development for establishing new schools of medicine. The development of the Medical Center at the University of North Carolina will offer increased opportunities for training personnel for the health professions, both undergraduate and graduate, primarily for the state but for the region as well.

The South has always been in the medical hinterland, so to speak, and we have been dependent upon the resources of the East and Middle West. We have needed more outstanding centers for research and for training our capable young men and women for teaching and practice in medical and allied fields. The expansion and development of more such centers with the opportunities each offers for training and for professional stimulation throughout the area will inevitably lead to the elevation of standards of medical care and will help to relieve the medical isolation that has retarded the development of our potentialities.

However worthwhile this new center may be in augmenting the present educational and research resources of the South, its field of useful-

ness would be limited if it did not expand its educational and service functions beyond the limits of its immediate locality and relate these in a very tangible way to the problems of medical service and medical care in the state. In the past, most schools of medicine have been too much inclined to live in their ivory towers of teaching and research and have perhaps not been too concerned with assuming much responsibility for the larger problem of medical care in the area, except in so far as they trained well-qualified practitioners and rendered excellent medical service to those patients who came to the university clinics and hospitals.

The expansion of the University of North Carolina School of Medicine has a regional significance in its planning in relation to this problem. Indeed all the new schools have an excellent opportunity to set a new pattern in making lasting contributions to the total medical needs of the area.

One of the most serious problems affecting medical care for a very large segment of the population of our Southern states, all essentially agricultural and rural, is the drying up of medicine at the crossroads. There is no simple solution to this problem. Many factors, both economic and social, have and will continue to play their part. Certainly the absence of hospital and laboratory facilities and the medical isolation have loomed large as deterrents to the location of young physicians in these areas.

The medical school must provide opportunities for qualified men and women from rural areas to be trained in medicine, nursing, dentistry, and technology. Much has been said about the few rural people who are currently being prepared for medicine and allied fields. Since 1947, 29 per cent of students admitted to our first-year classes have been from rural areas and 13 per cent were living on farms at the time of their admission to medical school.

While everybody, especially medical educators, talks about the need for more men in general practice, few of us do anything about it, and we continue to arrange our teaching and our hospital services to fulfill the requirements for the specialty boards. A conscious encouragement must be given to undergraduates to enter general practice. Our schools must arrange hospital training programs to afford two years or more in medicine, psychiatry, pediatrics, obstetrics, and traumatic surgery, the bulk of general medical practice.

Hospitals and health centers are presently, through Federal, state and local funds, being built in many communities where such facilities have not existed previously. Even so, unless the medical and professional isolation can be overcome or at least lessened, the modern physician will be loath to settle in smaller communities. Herein lies one of the great opportunities for the medical school if it really has a concern for the medical welfare of the community in a broad sense.

First of all, the education of the practicing physician can be continued by providing opportunities for him to return at intervals to the teaching hospital for additional work in any field in which he is interested; and second, by taking postgraduate work in the form of lectures and clinics and ward rounds to the community hospital and health centers at regular intervals. Consultation services in clinical medicine and in x-ray or pathology can be provided the small hospitals in the more isolated areas if requested. A pattern of integrated medical services can be provided between the center and the periphery, along the lines already successfully operated in New England, Northern New York, Virginia, and Michigan. The resident staff can be rotated through a number of such hospitals. This is perhaps the most effective manner in which an educational program can be extended to the hospitals at the periphery because staff members for the teaching center, on their visits to teach the resident or second-year intern in the smaller hospital, are soon teaching the local physician for that and surrounding communities. Through such a program it is possible to provide professional stimulation to the doctor, the nurse, the dentist or the technician in the small community and to keep him abreast of all newer developments and technics at the center. He is no longer on the fringe, but continues to be in reality a part of the activities at the medical center. In the course of time undoubtedly the residents in such a program will themselves seek a similar location as they see that they are not to become the forgotten men of medicine.

Finally, the medical school developments in North Carolina and other Southern states offer a thrilling opportunity to plan for the training of the practitioner of the future in an intelligent,

farseeing manner unhampered by traditions of older medical centers and existing departmental barriers and jealousies. We should take stock of the present position of certain specialty fields in the light of the advances of the past twenty years, especially in the developments in the chemotherapeutic fields, and try to determine their importance to the practitioner of 1970-1980. For example, the need for mastoidectomies and empyema operations has practically disappeared. Children and adults with lobar pneumonia seldom reach the hospital and are effectively handled in the home by the use of antibiotics.

On the other hand, the problems of the aged have assumed larger importance and in the future this will be more apparent. The problems dealing with the emotional adjustments of children and adults to the increasing complexities of life already make up a large part of the practicing physician's patient load, and there is no indication that this will decrease. If the new schools simply continue their training of doctors along the lines medical schools have followed for the past twenty-five years, both on wards and in outpatient clinics, however excellent these may have been, they will have missed perhaps the opportunity for making their greatest contribution to medical education and medical service.

In summary, the development of the medical teaching and research center at the University of North Carolina is of significance regionally for the following reasons:

(1) It indicates an effort on the part of the public to provide better medical services for the people of a commonwealth.

(2) An additional facility will be available for training personnel in the health fields, in which the South has long been deficient.

(3) It will add to the research and scientific resources of the South.

(4) This center has a definite obligation to concern itself with medical care problems of the community in a definite and organized way and particularly with helping to overcome the professional isolation of personnel and hospitals at the periphery.

(5) This institution, like other new ones in the process of formation, has both an obligation and an opportunity to appraise the needs of the practitioner of medicine of the future and to develop training programs, undergraduate and graduate, without regard for old patterns, however satisfactory they may have been in the past, which will enable their graduates to cope best with the changing problems of the practitioner as he deals with the sick individual in his relationships to the total environment.

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DISCUSSION (*Abstract*)

Dr. David S. Pankratz, University, Miss.—I wish to congratulate Dean Berryhill and the state of North Carolina upon the progress that they have made in their medical education and medical care program. I have observed their struggles and success with a great deal of interest, since we in Mississippi are working on a similar project. Our conditions are alike in most respects. We, like North Carolina, found it very advantageous to use Federal aid as provided for under the Hill-Burton Act. North Carolina, with a population of 4,035,000, has two private medical schools, Duke University and Bowman Gray, which respectively registered 44 and 40 first year North Carolina students in 1949. At the same time North Carolina sent 5 freshmen Negro students to Howard University and one to Meharry Medical College. North Carolina took 58 freshmen this year, which makes a total of 142 admitted each year into medical schools within the state. These three schools graduate a total of some 165 physicians each year. North Carolina last year lost 125 physicians by death or by their moving from the state. Even if all of its graduates should return to practice in North Carolina, the yearly gain would not be large. Furthermore, Dean Berryhill informs me that over an extensive period studied only about 50 per cent of their graduates have returned to the state for practice. In a recent report on the state of New York, which has 9 medical schools, the statement was made that they do not train enough physicians for their own needs. Mississippi, with a population of 2,172,000, has only a two-year medical school now, and admits 56-58 freshmen each year. In the past two years we have graduated an average of 57 students. At the same time we have lost 40 physicians each year by death, and some have moved out of the state. During a twenty-year period before World War II, only 36 per cent of our graduates came back to Mississippi to practice.

The state of Missouri has a two-year medical school at present and admits only 44 freshmen each year. And it should be pointed out that Florida with a population of 2,734,000, has no medical school. The above described conditions, of course, influence our physician population. I believe that there is very little danger of an immediate oversupply of physicians, even with present plans of expansion of medical schools in this area. I am sure that the proper data will show that ever since World War I, the South has been in need of more physicians, dentists and nurses. The latest statistics indicate such

a shortage even now. The table herein shown was compiled from the data in Bulletin 78, Bureau of Medical Economic Research, for 1950.

In 1946 the Mississippi State Legislature established a state medical scholarship or loan program. Under this program we are now getting many physicians to return to Mississippi for rural area practice. At present 50 per cent of all Mississippi's medical students at all schools are on this loan program. Nearly 300 loans have been granted to date. They are all under a contract to return to Mississippi for at least two years of general practice, most of them in rural areas. Of interest is the fact that over 40 per cent of these students come from the farm.

The nursing situation is even more acute in the South and in the nation. However, steps in the right direction are now being taken. The North Carolina School of Nursing will take 50 students, and I know that Duke and Bowman Gray have excellent schools of nursing in operation. We have only 3,212 registered nurses in all of Mississippi. Two years ago we established a graduate scholarship program for registered nurses and a degree program at the University. We now have 33 graduate nurses in training, most of them out of the state. But each student has agreed to return to Mississippi for practice in payment of her loan.

The state of North Carolina has long been noted for its excellent undergraduate and graduate educational program. The new medical center will greatly enhance the facilities of the state, and strengthen the recently organized Southern Regional Education Program. No doubt all the states in this area will wish to take advantage of the new educational expansion.

Dean Berryhill has the opportunity to develop a new curriculum in keeping with the demands of this age. Doubtless more emphasis should be placed on general practice, social medicine, psychosomatic medicine, geriatrics and atomic medicine. Dean Berryhill can do some experimental work in the organization of the clinical years. I am in full agreement with his program for graduate and postgraduate education. We must never permit the physician to become isolated in a rural area. It is up to the medical schools to take recent advances and information to all the busy general practitioners. At the same time, the medical center must offer intensive courses to physicians who come to the hospital and school for further training. A medical center will greatly aid in the training of interns, residents and the various ancillary personnel needed for all the new county hospitals.

It is high time that Southern schools train more graduate students, teachers and research personnel. All medical schools are now in need of instructors. With the present international crisis and with new schools being developed and expanded, the shortage of instructors will become acute. North Carolina, Missouri, and Mississippi can profit by observing what other medical centers have done recently. With this in mind, a Mississippi delegation visited ten medical centers last August and studied their plans and methods of operation.

The time has come when every school of medicine must re-evaluate its whole program with the idea of offering its graduate and postgraduate students the best training possible in view of recent scientific and social advances; and with the view of giving the American people the most modern preventive and curative medicine that money can buy. This certainly appears to be North Carolina's aim.

NUMBER OF PHYSICIANS PER 100,000, AND PHYSICIANS PER POPULATION (1949)

All Physicians

	Ratio M.D. Population
Louisiana	111.2 or 1 to 899
Tennessee	96.7 or 1 to 1,034
Georgia	96.1 or 1 to 1,041
North Carolina	85.9 or 1 to 1,164
Arkansas	85.2 or 1 to 1,174
Alabama	75.2 or 1 to 1,330
South Carolina	74.5 or 1 to 1,342
Mississippi	68.7 or 1 to 1,456
New York	189.6 or 1 to 528

General Practitioners and Part-time Specialists in Private Practice

	Ratio M.D. Population
Arkansas	74.3 or 1 to 1,346
Tennessee	69.0 or 1 to 1,449
Virginia	65.9 or 1 to 1,517
Georgia	60.5 or 1 to 1,653
Louisiana	59.1 or 1 to 1,692
Mississippi	55.7 or 1 to 1,795
North Carolina	51.6 or 1 to 1,938
Alabama	51.5 or 1 to 1,942
New York	113.4 or 1 to 883

This table shows eight Southern states which have a low doctor-to-population ratio and the same data for the state of New York.

NEOMYCIN: AN ADJUNCT IN ABDOMINAL SURGERY*

By EDGAR J. POTH, PH.D., M.D.
STANLEY M. FROMM, M.D.
RICHARD G. MARTIN, M.D.
and
CHIN MIN HSIANG, PH.D.
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The ideal intestinal antiseptic should possess the following characteristics:

It should have a broad bacterial spectrum, be rapid in action, and prevent the development or overgrowth of resistant bacterial variants. The antibacterial agent should be sufficiently potent so that it can be given in a relatively low dosage. It should either be nontoxic or be so poorly absorbed from the gastro-intestinal tract that although the substance is ordinarily toxic, it is not absorbed in sufficient quantity to give toxic reactions.

The agent should retain its antibacterial properties in the presence of foreign material, such as foods and the products of digestion, so as to

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allow the ingestion of sufficient food and fluid to maintain and improve the patient's nutritional state without inhibiting the antibacterial action. Moreover, it should act in such a manner as to assist in the mechanical cleansing of the bowel without causing dehydration from excessive watery stools when the patient is on a low residue diet. Also it should be relatively water soluble and palatable. Furthermore, the antibacterial agent should not cause gastro-enteritis, excessive diarrhea or anorexia. The material should not inhibit tissue repair since it will be in contact in high concentration with the healing bowel.

Initially, we thought that all of these specifications were fulfilled by neomycin, obtained from Streptomyces fradiae.[1] Subsequently, however, it was found that neomycin failed in one respect.[2] While it differs markedly from its closely related antibiotic, streptomycin, in that it does not favor the development of resistant forms, it was found that occasionally the growth of the Aerobacter aerogenes is not inhibited, and the more resistant forms of this organism multiply. It was necessary, therefore, to find a supplementary agent which would prevent the formation of these resistant variants.

Sulfathalidine was chosen as the supplementary agent. Sulfathalidine was selected because it has strong antibacterial properties for gram-negative organisms. Aerobacter aerogenes has not been observed to grow out and give resistant variants in the presence of this sulfa drug. Sulfathalidine has low toxicity. It is poorly absorbed from the gastro-intestinal tract, and it acts favorably in the presence of a diarrhea. This latter property is desirable because neomycin has a tendency to render the stools quite liquid. Neomycin does not cause dehydration or a large increase in the volume of the stools.

In the absence of obstruction or other contraindications, the following schedule for preoperative preparation has been adopted:

(1) Low residue diet.

(2) Castor oil 30 to 60 cc.

(3) After the first liquid stool, administer 1.0 gram neomycin sulphate together with 1.5 grams of sulfathalidine orally on a four-hour schedule.

(4) Routinely the stools are cultured at the end of each 24-hour period.

(5) Preoperative preparation for three days. (Some recent observations indicate that this time might be decreased substantially.)

(6) If there is reason for postoperative medication, such as the performance of a primary anastomosis of the bowel, 1.5 grams of sulfathalidine can be given on a four-hour schedule within 48 hours after operation.

The results obtained from this combined therapy are regarded as being due to the action of neomycin, while sulfathalidine acts to prevent the development of a resistant strain of Aerobacter aerogenes. Very probably, the bacterial population of the bowel disappears somewhat more abruptly with the combined therapy than when neomycin is given alone. In many instances the dosage could be decreased, but for a dependable result it is probably best that this amount of material be administered. It must be anticipated that, on occasion, toxicity will result from the sulfathalidine. These patients will require preparation using neomycin alone. Neomycin has been administered orally to approximately 100 patients without evidence of definite toxicity. Neomycin has now been studied for approximately one year.

Approximately 3 per cent of the ingested antibiotic is excreted in the urine. This antibiotic does not accumulate in the body tissues. Assays of the serum and urine would indicate that the drug is absorbed slowly from the gastro-enteric tract and rapidly excreted by the kidneys.

Ordinarily, the total intestinal flora is reduced to less than 100 organisms within 24 hours after the first dose of the combined therapeutic agents. It is not the exception, but rather the rule, that within 24 to 36 hours no bacteria can be grown by the usual aerobic and anaerobic culture methods. In order to eliminate the possibility that growth does not occur because of *in vitro* inhibition by the antibacterial agent transferred with the specimen into the culture media, 0.25 gram of wet stool was transferred to 1,000 cc. of culture medium. This degree of dilution will give a concentration of sulfathalidine and neomycin far below that level at which organisms will grow in the culture medium. Under the conditions of this inoculation there is no bacterial growth. Furthermore, media which showed no growth when inoculated with stools obtained from patients treated with neomycin, when subsequently inoculated with viable bacteria supported growth. Evidently no viable bacteria remain in the altered stools. This combined ther-

apy does not inhibit the growth of yeasts. In fact, as the bacterial count drops, the growth of yeast tends to increase. The stools assume a characteristic appearance. They will be thin, frequently watery, have a greenish color, and be odorless. They will contain some mucus and be relatively small in bulk.

The combined therapy does not affect the clotting mechanism. It might be suspected that an agent or combination of agents, which profoundly alters the bacterial flora of the gastro-intestinal tract, would cause sufficient upset in the synthesis of vitamin K to influence the clotting mechanism. Patients who have been kept on this therapy for as long as ten weeks have failed to show any alteration of the clotting mechanism as measured by bleeding, clotting and prothrombin times. It could be that the presence of yeasts and their increased metabolic activity takes over the synthesis of these essential substances.

The influence of these two antibacterial agents on the healing of intestinal anastomosis has been tested and demonstrated to favor local tissue repair.

A mouse test has been devised to check the effectiveness of alteration of the bacterial flora in the stools and demonstrate the relative antibacterial activity of neomycin and other antibiotics.[3]

When mice are injected intraperitoneally with a quantity of human feces equivalent to 400 grams for an 80-kilo man, the mice will die in 12 to 24 hours. The effect is so overwhelming that there is practically no peritoneal reaction. After the bacterial flora has been altered by the administration of neomycin, 100 per cent of the animals will survive the injection. They will show no ill effects whatsoever. The peritoneal cavity remains entirely normal in appearance. If ordinary human feces are mixed with neomycin to the extent of 500 gamma per gram and then injected intraperitoneally, all the mice will survive. If untreated feces are injected intraperitoneally and subsequently 3,000 gamma of neomycin are injected intraperitoneally, varying numbers of the animals survived depending upon the length of time between inoculation and injection of the neomycin. If the administration of the antibiotic is delayed for five hours, no animals are protected. At this point, it is necessary to issue a warning against placing large quantities of neomycin in the peritoneal cavity of man, because, while 3,000 gamma will protect a 20-gram mouse from the tremendous insult of the introduction of a fatal quantity of feces into the peritoneal cavity, 5,000 gamma of the antibiotic will, of itself, kill the mouse.

A demonstration of the bactericidal property of neomycin is given in the following experiments. Ordinary human feces having a bacterial count of several million organisms per gram of wet stool are mixed with neomycin to give a concentration of 500 gamma per gram. Poured plates inoculated with 1.0 gram of wet feces will show a growth too great to count. If the neomycin-feces mixture is permitted to stand for fifteen minutes and again cultured under the same conditions, only a few colonies will grow out. After thirty minutes standing, no organisms survive. It is interesting to observe that this effect results when the neomycin concentration is 500 gamma per gram of wet stool. Under the conditions of ordinary therapeutic application, neomycin will be present in the stools in a concentration of approximately 10,000 gamma per gram of wet stool. Therefore, it is immediately obvious that under the conditions of therapy, the bacteria in the gastro-intestinal tract will be destroyed with great dispatch.

These observations lead to the following logical conclusions. Should it be necessary to explore a person with acute obstruction, mesenteric thrombosis, or for some other reason without having had the opportunity of a three-day preoperative preparation, it would be possible to evacuate the bowel of its large amount of gas and liquid feces and inject a solution of neomycin. It can be anticipated that this will be a tremendous boon to abdominal surgery, the nature of which requires urgent treatment when sufficient time cannot be taken for proper preparation. This condition exists particularly in instances of acute bowel obstruction. Following evacuation of the distended bowel and injection of a neomycin solution, it can be anticipated that immediate primary resection with immediate, open anastomosis can be carried out with safety provided there is no vascular damage and the bowel is not edematous.

When it has been possible to prepare the patient properly for three days, the bowel is characteristically empty. Resection and anastomosis of the large bowel can be carried out with complete safety using the open technic. It is no longer necessary to use the more inaccurate

aseptic methods. The open technic allows a much better anatomical reconstruction, and sutures can be placed so as better to preserve the blood supply.

CLINICAL USE OF NEOMYCIN-SULFATHALIDINE THERAPY IN ABDOMINAL SURGERY

Following the schedule outlined above, combined neomycin-sulfathalidine therapy has been carried out on approximately 100 patients. The following conditions have been encountered and treated.

(1) The Miles abdominoperineal resection for carcinoma of the rectum.

(2) Anterior resection for carcinoma of the sigmoid.

(3) Resection of transverse colon for carcinoma.

(4) Resection of the cecum and ascending colon for carcinoma of the cecum.

(5) Total colectomy for chronic ulcerative colitis.

(6) Subtotal colectomy with anastomosis of the ileum to the rectum for polyposis with carcinoma.

(7) Resection of the transverse colon together with the stomach for secondary invasion for carcinoma of the stomach.

(8) Ureterosigmoidoscopy for carcinoma of the bladder and for congenital malformations of the urinary bladder.

(9) Resection and enclosure of fecal fistulae persistent in the rectosigmoid due to diverticulitis.

(10) Excision of fistula *in ano*.

(11) Hemorrhoidectomy.

It is remarkable that even in very extensive intra-abdominal operations, postoperatively the patient practically never has an elevation of temperature greater than 1° F. although all intestinal sutures have been done by the open type surgery. This observation is probably explained by the fact that following experimental anastomosis of the large bowel of the dog, after adequate preparation with neomycin-sulfathalidine, there is only minimal infection at the line of suture. The cut edges of bowel show no necrosis. There is little or no leukocytic infiltration of the surrounding tissues. Edema is practically nonexistent. On the third postoperative day, the microscopic appearance of the tissues at the line of suture resembles that of the control anastomosis on the seventh to the tenth postoperative day.

DISCUSSION

It cannot be concluded from the experience gained by one year's administration of a drug to a limited number of 100 patients, that everything pertaining to a therapeutic procedure has been learned. It should be expected that there may well be some instances of toxicity resulting from the oral use of neomycin. Naturally, there will be an occasional toxic reaction from the combined administration of neomycin and sulfathalidine, since sulfathalidine alone occasionally gives the characteristic toxic reactions of the sulfonamides. It can be concluded, however, that untoward reactions of a toxic nature due to oral neomycin will be extremely rare, and the present indications are that they will not be of a serious nature. The usual preoperative period is so brief that even though neomycin may be toxic for a highly sensitive individual in the small quantities absorbed from the gastrointestinal tract, studies on parental administration of this fraction of the antibiotic indicate that serious toxic damage will not be expected to occur.

Those patients who show sensitivity reactions to the combined therapy of neomycin and sulfathalidine will require that only neomycin be administered. Of these few patients, it can be expected that only rarely will there be development of resistance. If we assume that one per cent of the patients treated will show sensitivity to sulfathalidine and these patients must receive neomycin alone, then, if ten per cent of one per cent of patients who receive only neomycin develop a resistant strain of Aerobacter aerogenes, only 0.1 per cent of the patients initially treated will develop resistant forms of Aerobacter aerogenes, or one patient in a thousand. Of this small number of patients, the untoward result of the development of such a resistant strain will manifest itself in a still smaller percentage with the result that probably not one patient in twenty thousand initially treated should come to any possible harm.

It seems reasonable to conclude from the evidence which has been presented and referred to in this paper that neomycin-sulfathalidine, when properly administered, can be regarded as a close approach to the ideal for intestinal antisepsis.

Because of the bactericidal properties of neomycin, it now appears to be within our grasp that urgent surgery on the acute intra-abdominal catastrophes involving the gastro-intestinal tract can be treated with a high degree of certainty that the hazards of infection will be reduced to a minimum.

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DISCUSSION (*Abstract*)

Dr. Claude F. Dixon, Rochester, Minn.—Dr. Poth is well known for his investigative work with sulfasuxidine and sulfathalidine. When we reviewed his observations on neomycin as an intestinal antiseptic, we became enthusiastic and desirous of trying this drug.

For the past two years, Dr. Dearing of the Division of Medicine and Dr. Heilman of the Section on Bacteriology of the Mayo Clinic have been studying the effect of antibacterial agents on the intestinal flora of patients. They have published their results on the use of aureomycin, chloromycetin, dihydrostreptomycin, sulfasuxidine and sulfathalidine. Their studies with terramycin will be published soon. The results of their comparative study of these antibacterial agents indicated the superiority of aureomycin. Terramycin has been found to be equal to aureomycin in every respect. The recommended use of 750 mg. of aureomycin or terramycin orally four times daily for three to three and one-half days together with saline catharsis and a minimal residue diet has been the routine used at the Mayo Clinic for preoperative intestinal antisepsis for the past year.

The machinery for the investigation of another antibacterial substance was well established and no difficulty was involved in getting started with the use of neomycin. Dr. Poth's reports were so encouraging that we believed a trial by our methods was indicated.

The number of patients that received neomycin is small: 11 in all. Of these, only 9 patients received the drug for a sufficient period so that repeated daily stool examinations could be carried out.

Neomycin has proved to be extremely nephrotoxic when used parenterally. Dr. Poth's work has shown it to be nontoxic when given orally. Because of these two facts it was decided to use the drug on convalescent patients in whom the intestinal flora was thought to have returned to normal and who had not received an antibacterial agent for at least seven days. Most of these patients had undergone colostomy and were on a low-residue diet, and stools were readily available. No catharsis seemed necessary.

The dosage was 1 gram every four hours around the clock. Three of the 11 patients complained of nausea sufficiently severe to cause them to refuse further medication; the rest tolerated the drug very well. All complained of frequent loose, watery stools. There was no change in urine or urea after five or six days on the drug.

From the clinical viewpoint, neomycin appears to be well tolerated by most patients. In this respect it is superior to aureomycin and terramycin, which frequently cause nausea, loss of appetite and vomiting. Neomycin does not appear to be nephrotoxic when administered orally.

The bacteriologic procedure which we used in outline was as follows: the gross characteristics of the fecal sample were recorded. A thick smear was made on a slide and stained by Gram's method. A tenfold dilution was made with nutrient broth and each of the following media was inoculated with 0.02 ml.: one blood agar plate, one eosin methylene blue (Levine) plate, three tubes of thioglycolate broth (Brewer) and one tube of dextrose brain broth. Two tubes of inoculated thioglycolate were placed deep in a water bath at 70° C. and were left for fifteen minutes in the expectation of destroying all but the spore-forming organisms. The inoculated media were incubated for eighteen to twenty-four hours at 37° C. All organisms, aerobic and anaerobic, were identified.

Dr. Heilman more or less predicted the effectiveness of neomycin on the fecal flora before we started using the drug. Since the bacterial spectrum for neomycin was similar to that of streptomycin he predicted that Clostridium and Bacteroides would not be eliminated. He proved correct in the majority of cases.

The Section on Bacteriology did not know which of the patients were receiving the drug, since patients receiving aureomycin and terramycin were also having their stools examined. In spite of this, the laboratory was soon able to identify a stool prepared with neomycin because of its foul or sour odor even after three to four days. Stools prepared with aureomycin or terramycin for the same length of time were invariably sweet or odorless. On several occasions the stools of patients receiving neomycin became sweet or odorless, but this was not a consistent finding.

The elimination of Clostridium and Bacteroides probably accounted for the complete lack of odor of the stools of patients who were receiving adequate doses of aureomycin. Organisms of Clostridium and Bacteroides were frequently found in the stools of patients receiving neomycin, and hence the foul odor of these stools is accounted for. Green-producing streptococci were a frequent finding in stools prepared with neomycin. Similar organisms have never been found with stools prepared with aureomycin. In the stools of a patient receiving neomycin, anaerobic streptococci grew even after five, seven and nine days on the drug.

In general, the number of organisms was greatly reduced when the patients were prepared with neomycin. Cultures sterile for Escherichia coli, Aerobacter aerogenes, Streptococcus faecalis, Proteus and Pseudomonas were found. Aerobic spore-formers were absent. However, Clostridium, Bacteroides and green-producing streptococci were frequently present. These are consistently absent when stools prepared with aureomycin or terramycin are examined.

Although the number of cases is small and although

there may be some criticism of the type of cases selected, we feel that some tentative impressions can be formulated. First, neomycin is nontoxic when given orally. Second, it will reduce the aerobic organisms of the intestinal flora consistently but Clostridium and Bacteroides are not consistently removed. Third, neomycin is not superior to aureomycin or terramycin as an antibacterial substance for removing bacteria from the intestinal tract of man.

A PLEA FOR STANDARDIZATION OF SKIN TESTING MATERIAL*

By MASON I. LOWANCE, M.D.
Atlanta, Georgia

Most papers having to do with skin tests and materials employed in giving them are scientific and report some new technic or treatment which the writer assumes will be of value to his colleagues. My paper, to the contrary, is far from scientific and has relatively little, if anything, new to offer. With your permission, I wish only to lay before you some facts and conditions of which most of us are already aware. Why then, you may ask, do I choose to take up our time with such repetition? The answer is: I hope to prod us, as a group, into action, for, if I may appropriate and paraphrase Mark Twain's pungent observation concerning the weather, "Much has been said, but little done" up to now about the subject under discussion. So little, in fact, has been accomplished, that, although approximately 40 years have elapsed since skin testing was first experimented with generally, there is as yet no standard extract. That some of you may, and others may not, take issue with me would seem to prove my point. To be sure, there is a multiplicity of methods by which extracts may be standardized, but actually there is no one extract by which all others are measured and appraised. In other words, there is, as of today, no method that all pharmaceutical houses and allergists accept as a fixed measure or yardstick; no one standardized extract on which all statistics, all case reports, and all treatments are based.

The following are excerpts from letters received from several pharmaceutical houses in reply to my letter to them regarding their opinion of the need for standardization of extracts:

(1) "We do not believe that there is any extract made by any method whatsoever that can be regarded as standard.

"Everyone knows that it would be advantageous to have a standard against which every lot of extract could be compared."

(2) "We feel that there should be a standard extract for each of the more important allergenic extracts maintained by a central laboratory to which sample extracts could be sent for standardization.

"We take exception to your first statement, that there are satisfactory methods in use for the standardization of allergenic extract."

(3) "We share your opinion concerning the need for a more absolute method for the standardization of allergens. Such standardization is desirable to:

(a) Render more meaningful comparisons between independent investigations and literature reports.

(b) Establish the description and thinking of allergy on a quantitative basis."

(4) "There is no actual definition of an allergenic extract as it should be described by the National Institute of Health.

"Of course, standardization requires again one authoritative individual or department such as the National Institute of Health to enforce such a procedure. I believe there is enough evidence to warrant this, but too much pressure from the outside to permit it."

(5) "There is no standard extract available which may be used as a basis of comparison for all other extracts made."

(6) "The National Institute of Health, by which manufacturing laboratories must be licensed, does not recognize any standard of potency.

"We do not believe there is a standard extract in use that would be accepted by the majority for use as a comparison.

"Certainly, we must agree that there is need for a standard to provide reliable information and enable one to make a comparison in any section of the country. There must certainly be a lack of uniformity in results by scattered physicians with extracts from various sources."

How then, are our statistics to be of maximum value? Indeed, how are the research men to give an accurate report, when a prescription can mean ten different things to as many doctors who may have occasion to read it?

Allergy, as a specialized field of medicine, has come of age. It is high time we recognized and organized its treatment. We physicians have been prescribing penicillin for less than ten years. Had it received at the hands of the medical profession and pharmaceutical houses the same haphazard handling that is still accorded skin testing extracts, its widespread usefulness would have been greatly curtailed. Units of penicillin, although put out by different pharmaceutical houses, mean only one thing to physician and

*Chairman's Address, Section on Allergy, Southern Medical Association, Forty-Fourth Annual Meeting, St. Louis, Missouri, November 13-16, 1950.

pharmacist alike, regardless of their locations. If we are to think precisely, it is to our mutual advantage that such an understanding be reached with reference to extracts before the volume of literature, based on the present varied standards, increases.

Contrary to popular belief, skin testing for sensitivity to allergens is not a new procedure. As early as 1835, Kirkman tested himself to sweet vernal grass by rubbing it on his skin. In 1873, Blackley reported the skin testing of patients with pollens. Von Pirquet did tuberculin scratch testing in 1907, and two years later H. L. Smith used an identical method. In 1911, Dr. Robert C. Cooke[1] first used intracutaneous skin testing in general allergy. O. M. Schloss, in 1912, employed this method in testing for food allergy.

From 1912 to the present day, other methods and types of extracts have been advised and used with varying degrees of success. And today, after some fifty years of trial and error experiments, the scratch and intradermal technics continue to be the most widely used.[2,3] The conjunctival and the indirect intradermal (passive transfer) are used occasionally; the leukopenic index, almost never.

I might say here that we are using the same extracts our predecessors used about 40 years ago. This statement is not meant as criticism, as the same could be said of many other drugs: aspirin, for instance. However, it forces upon us one of two conclusions: either these early extracts were such as defied improvement, or our research is paying poor dividends in the field of allergens. Passing judgment on their therapeutic value, however, is not the purpose of this paper. I call attention to the fact only to point out that after this extensive usage of the same extract, we have not yet reached an agreement on a unit (call it what you will) that means the same thing to you as it does to me, that brings the same clinical picture to the mind of the California allergist as to his eastern shore colleague.

The blame for a lack of any standard rests, it would appear, with those of us who practice allergy. We have, as a group, been remiss in our efforts to set up any adequate criterion by which to measure extracts. How much more valuable our literature would be today if such a standard had been agreed upon and utilized for the past two decades. Some of you remember that a few years ago one of our leading allergy societies made an effort in this right direction, saying that among its major objectives was the establishment of a central laboratory for research in and the preparation of extracts. The accomplishment of such an undertaking would have resulted in the production of extracts which most of us would undoubtedly be using now. As far as I was able to determine before writing this paper, the idea of the project met with more opposition than cooperation, and little has come out of it to date, other than wishful thinking. And this brings us to our present befuddled predicament.

The reputation of the allergist has suffered damage, in the eyes of both the public and the rest of the medical profession, by the discrepancies in his and his fellow allergists' reports on skin tests. Such discrepancies have become common knowledge and are discussed and exaggerated according to the one who does the talking. Unfortunately, the critics do not need to resort to exaggeration in order to prove their point. There are all too many instances where the reports are divergent.

Let us examine some of the factors that have led to this present undesirable situation. How many of you accept the information brought to you by a patient from another physician in regard to his sensitivities, regardless of the respect you may have for your colleague's ability? How often, when you test this patient, are you able to agree with his report? The answer to both questions is the same. There must be a reason for it, and I am convinced that it lies basically in the extracts used. Certainly, the technic employed has to be considered, and the respective doctors' interpretations also have to be taken into account. However, one needs only to test a patient having known clinical sensitivities with extracts from more than one source to prove wherein the real difference lies. Using a given extract from five different sources, the chances are that five different degrees of reaction will be noted. I, myself, have made this experiment with extracts from reputable pharmaceutical houses, and the reactions varied from negative to 4 plus. Parenthetically, I should like to add, for what it may be worth, that scratch and intradermal testing material produced by one company effected an identical degree of positive or negative reaction.

These variations in skin testing material present many problems. The well meaning allergist may sometimes find it hard to explain to the

patient the significance of the differences in reactions without underrating his predecessor's work. A less scrupulous man, we hope there are none, might take advantage of the discrepancies to belittle another's efforts. What is the patient to conclude? Take the hypothetical Mrs. Blank, for example. She was skin tested by her physician who used extracts put out by Pharmaceutical House A. He, finding her sensitive to many materials, advised her in good faith to avoid certain inhalants and to omit a large number of foods. He also treated her with extracts. Mrs. Blank showed no improvement, consequently became dissatisfied, and sought out another allergist. By now, her restricted diet had resulted in nutritional deficiencies, and she was well on the way to becoming a victim of neurosis. Retesting revealed little or no sensitivity. Her original diet and schedule of treatment were discarded and an infectious condition was treated, with total relief from symptoms.

Case W-861.—A man, age 34, was first seen on August 4, 1948. At the age of 8, he had onset of an allergic coryza, July to frost. At the age of 11, he developed asthma, July to frost. He had occasional attacks at other times. At the age of 34, he continued to have hayfever and asthma, August 1 to frost.

Previous testing, elsewhere (1947) resulted in his being given a list of the following to be avoided and omitted from his diet.

House dust	Raspberry	Pork
Kapok	Blueberry	Lamb
Orris root	Cotton seed	Codfish
Flaxseed	Caraway seed	Lake trout
Cotton lint	White potato	White fish
Camel hair	Parsley	Watermelon
Apple	Penicillium	Mustard
Banana	Hormodendrum	Cauliflower
Strawberry	Alternaria	Green pea
Plum	English plantain	Halibut
Barley	Ragweed	Herring
Soy bean	Some tree pollens	Lobster
Onion	Grapefruit	Shrimp
Spinach	Orange	Tuna fish
Feathers	Peach	Salmon
Dog hair	Cherry	Bass
Goat hair	Ginger	Perch
Horse hair	Beets	Pike
Rabbit hair	Sweet potato	All nuts
Wool	Chocolate	Paprika
Blackberry	Coffee	Carrots
Cantaloupe	Duck	Rhubarb

He was then treated with an extract containing ragweed, English plantain, feathers, alternaria, hormodendrum, penicillium, house dust, kapok, and orris root, with no improvement.

Present Reactions (1948).—He was sensitive to ragweed, cocklebur and feathers. He had no trouble except during the fall pollen season and this was controlled with antihistamines.

Case Y-36.—A man, age 55, was first seen on January 24, 1950. He had had nasal congestion and sneezing for years, perennially. Skin tests elsewhere in 1949 gave positive reactions to the following:

Coffee	Mattress dust	Banana
Grain mill dust	Salmon	Cabbage
Horse dander	Pyrethrum	Oats
House dust	Tobacco	Strawberry
Lettuce	Upholstery dust	Cat hair
Rice	Baker's yeast	Cattle hair
Kapok	Milk	Corn
Orris root	Onion	Cotton seed
Pea	Monilia	Orange
Peach	Apple	

There were questionable reactions to 26 other preparations.

Retesting in 1950, showed no reaction except questionable reactions to house dust, feathers, monilia, and trichophyton, and these were of no clinical significance.

The patient has been symptom-free since January, 1950, with clearing of upper respiratory infection.

Case Y-209.—A girl of 3 was first seen on April 5, 1950. The complaints were of nervousness and nasal congestion.

Skin tests at age 2 gave positive reactions to the following:

Beef	Sweet potato	Asparagus
Fish	Feathers	Pear
Carrots	Milk	Wool
Pineapple	Chocolate	Cat hair

There was no improvement until tonsillectomy. Since that she has been free of symptoms. There has been no recheck of the skin tests.

Case X-694.—A woman, age 39, was first seen on October 19, 1949. She complained of perennial asthma for the previous fifteen years, except during pregnancy.

Skin tests elsewhere in July, 1949, showed positive reactions to the following:

Grasses	Johnson grass	Tea
Chicken feathers	Orchard grass	Garlic
Duck feathers	Red top grass	Cinnamon
House dust	Bull grass	Paprika
Orris root	Sycamore	Caraway seed
Mattress dust	Gum	Brussell sprouts
Dog hair	Black walnut	Perch
Hog hair	Goose feathers	Black pepper
Tobacco	Barley	Codfish
Wheat	Rye	Catfish
Milk	Buckwheat	Poppyseed
Eggs	Wheat	Mushroom
Chocolate	Parsnip	Nutmeg
Lamb quarters	Coffee	Parsley
English plantain	Banana	Red snapper
Sudan grass	Coconut	Sweet potato

The skin tests rechecked by the scratch test method, on October 31, 1949, were negative. She was bronchoscoped and bronchograms were made. July 25, 1950, a lobectomy of the middle right lobe was done. She had no asthma since operation.

These specific cases bear testimony to the fact that hypothetical cases such as Mrs. Blank do at times come to our attention. I should like to say that some of these patients were referred to me by doctors who are personal friends. I know they are sincere in their work and capable of correct evaluation of tests. So, I can, therefore, attribute this misinformation, for the most part, to the type of extract they used for testing.

These facts, however, pose another question. How closely are we allergists observing the principles of good practice as set forth in all of the texts on allergy, namely:

"All positive skin tests must be confirmed by clinical trials."

Even without the backing of a textbook, our own experience would have taught us that such a precaution was justified. How much unnecessary inconvenience we could save the patient if we followed this rule strictly. A patient should in no instance be told that skin tests are positive until their significance is vertified by clinical observation.

I believe it is agreed that skin tests, although of proven value, provide us only a minor portion of the information necessary for the treatment of the allergic individual. Undue emphasis, however, and the faith placed in such findings by some allergists would make it appear that these skin tests afford the one and only source of their information. This exaggerated idea of their importance has become deeply embedded in the minds of the layman and the rest of the medical profession as well. The allergic patient comes to us often, having been told by the physician who referred him that we would do a few tests and be able to determine all that is wrong with him. With this preconceived false notion, it is difficult to convince him that a complete history and related studies are of far more value, both in determining his allergy and treating it, than are the skin tests on which he had pinned his hopes.

Another incorrect impression concerning tests, which I regret to say has been contributed to, if not actually created by some allergists, is that intradermal tests are absolutely essential in every case. In interviewing a patient who has been tested by another doctor previously, an allergist may affect an air of surprise and say:

"What? You mean needles were not used for your skin tests?" With "No" for the answer, he may proceed to make some such blank statement as, "Then you have not been properly tested, for only by doing these intradermal tests are we able to determine accurately the extent of your sensitivity."

The patient goes away in a state of confusion and with faith only in the almighty needle.

Those of you who were kind enough to lend me a hand in preparing the statistics are wondering what use I am making of them. (Let me say here that I am deeply grateful for your help. I am especially obligated to those who wrote letters bringing out factors which the cards could not cover.) It is not easy to get a clear picture of what is going on all over the country in the field of allergy, because most detailed questionnaires receive wastebasket-treatment by all of us. I hoped, however, to get enough response from the postcard folders to be of some value. Accordingly, I mailed 2,900 of them to physicians who had at one time or another purchased testing materials. Of the 2,900 cards mailed, 396 were returned. Of these 396, 47.5 per cent, or in round numbers, 204 doctors, reported that they made their own extracts. Of this number only 78 per cent measure their extracts according to any standard. About 50 per cent of these use the protein-nitrogen method, while another 25 per cent depend upon the weight-volume preparation as their standard, and the remainder have no form of standardization at all.

In addition to these 204 homemade extracts, the cards showed that 13 different pharmaceutical preparations are in use. Using the ratio of 396 to 2,900 as a basis for calculation, we can assume that we have 1,316 different homemade extracts. However, since there are probably only something like 15 reputable pharmaceutical houses, the number 13 will remain approximately where it is. Theoretically, according to this ratio,

SKIN TESTING AS PRACTICED BY PHYSICIANS

Of 2,900 cards mailed, 396 were returned.
Of this 396 physicians who reported, 162 were doing routine scratch tests for asthma and the number of tests ranged from 5 to 300.
Two hundred forty were doing routine intradermal tests for asthma and the number of tests ranged from 13 to 399.
One hundred sixty-two were doing routine scratch tests for hayfever and the number of tests ranged from 6 to 280.
Two hundred ninety-five were doing routine intradermal tests for hayfever and the number of tests ranged from 4 to 225.
One hundred fourteen were doing routine scratch tests for eczema and urticaria and the number of tests ranged from 6 to 250.
One hundred seventy-five were doing routine intradermal tests for eczema and urticaria and the number of tests ranged from 2 to 240.

Table 1

the writer of a book or paper on skin testing has a slim chance (about 1 in 1,300) of his findings meaning the same thing to his reader that they mean to him. The reader quite logically is thinking in terms of his own extracts. In some instances, the differences are slight; in others, they may reach dangerous proportions. The results from treatment advised will vary as much as one would expect, using such a diversity of interpretations.

There were other gleanings from the card study also in which you might be interested. I found that physicians who do the most tests use more intradermals than scratch tests, and that patients with many foods to be omitted, usually had been tested by, and conclusions concerning them had been drawn from, intradermal tests. As a rule, the greater number of materials which were reported to the patient as giving positive reaction, were of no real significance in his case.

From these statistics, what are we to conclude? That we, as allergists, are falling short of our capabilities in testing, treating, and reporting of patients, because we lack a standard extract? I should not be so naïve or one-tracked as to say that all of our weaknesses are attributable to this single inaccuracy. It is, however, undoubtedly a major hindrance to our progress in the study and treatment of allergic individuals. All of us (I think our presence here today bears out this statement) strive to increase our knowledge in order to serve more effectively those who entrust their health to us. Then let us make it easier on ourselves. Let us cooperate, let us systematize our thinking, and by setting up a single standard, let us work together for the good of the patient and the cause of our chosen field.

ROUTINE TESTING

67	do no tests on asthma patients routinely.
73	do no tests on hayfever patients routinely.
160	do no tests on eczema and urticaria patients routinely.

Table 2

METHOD OF TESTING

224	based reports on results of intradermal tests.
81	based reports on results of scratch tests.
58	based reports on results of both intradermal and scratch tests.

Table 3

NUMBER OF TESTS IN DIFFERENT ALLERGIC CONDITIONS

Number of tests done on hayfever patients ranged from	10 to 340.
Number of tests done on asthma patients ranged from	9 to 300.
Number of tests done on eczema and urticaria patients ranged from	10 to 250.

Table 4

ESTIMATED PER CENT OF PATIENTS REPORTED AS GIVING POSITIVE REACTIONS

Asthma		Hayfever		Eczema-Urticaria	
Scratch Per Cent	Intradermal Per Cent	Scratch Per Cent	Intradermal Per Cent	Scratch Per Cent	Intradermal Per Cent
3 to 100	5 to 98	8 to 95	30 to 100	5 to 98	10 to 95

Table 5

PER CENT PATIENTS GIVEN EXTRACT

Asthma	Hayfever
10 to 100	1 to 100

Table 6

ANTIHISTAMINICS DECREASED NUMBER

Asthma	Hayfever
Yes 40; No 356	Yes 273; No 123

Table 7

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DISCUSSION (*Abstract*)

Dr. Bernard G. Efron, New Orleans, La.—I have been interested in the standardization of extracts, and statistics in allergy, and have been talking about it for ten years. Now we are doing something about it.

In Memphis this past spring, we gave the first report on the use of the new extracts we have been making, and the reports were a little bit more contradictory than the older reports. Standardization is a matter which merits thought, and to use the same extract as a standard of reference, that extract must be (1) completely duplicable, that is, its positive and negative reactions must be constant. It must not deteriorate easily, because the extract which is used as a standard in 1950 would have to have the same degree of activity in 1953, if the data are to be comparable.

Then again, with reference to instances of scratch tests and intradermal tests which are considered positive, there is no unanimity of opinion and positively no agreement as to what constitutes a positive or negative

test. Not only are we not in agreement as to which extracts to use or which technic to use, but we cannot agree as to what is a positive and what is a negative. No criteria have been agreed upon which will tell us whether the reaction is positive or negative.

Dr. Chauncey D. Leake, Galveston, Tex.—I rise first to call your attention to material on standardization and, second, to point out that the professional problem on standardization of drugs is a psychological one and the practical problem is a commercial one. I call your attention to a volume by J. H. Burn entitled "Biological Standardization" published by the Oxford Press in 1937.

The point which Dr. Efron raised is that it does not matter what the standard is as long as all will agree upon it. Material may be taken out of the air; it may be mixed; anything may be used, as long as we all agree that it is the standard. When the standard is agreed upon other preparations may be measured in comparison with it.

The third point is: when the allergists agree as to what is a standard allergy extract, then the practical problem is for commercial manufacturers to adjust their product to the standard.

Dr. Lowance (closing).—I agree that it would be better to use the term "uniform extract" instead of "standard extract." It is important to have a "uniform extract" satisfactory to all of us. To quote one of the pharmaceutical houses: "We do not believe there is an extract in use that would be accepted as standard by the majority of physicians."

THE GEORGIA PLAN OF MULTIPHASE TESTING*

By C. D. Bowdoin, M.D., M.P.H.†
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The Georgia plan of multiphase testing had its inception in Savannah and Chatham County, Georgia in the fall of 1945. At that time, to meet the pressing need for increasing the tempo of our tuberculosis and syphilis case finding programs as economically as possible, we effected a "wedding" of the Treponema pallidum and the tubercle bacillus and began a combined mass TB-VD case finding program. This program included the reporting of abnormal heart conditions and other chest diseases as revealed by the x-ray film. The success of this program led to a statewide demand for similar services and, as a result, more than six hundred thousand persons were tested through 1949.

In the fall of 1949, with the encouragement of several prominent members of the medical profession in Georgia, it was decided to carry out a multiphase testing demonstration in the Greater Atlanta metropolitan area. This program, with the approval of the medical and dental associations, went into operation on April 4, 1950 and, after a period of 76 actual testing days, was terminated on June 30, after testing more than 236,000 individuals for seven conditions.

During this testing period from seven to fourteen testing units were in operation. A few of the units were in permanent locations but most of them were of a mobile nature. Testing stations were established in stores, schools, churches, industries and community centers. Mobile units remained in a given location for periods ranging from one day to several weeks, depending upon the number of individuals it was expected to serve. Station locations were selected with the idea of making the testing program as conveniently available to everyone as possible. We have found that policy a "must" in mass testing.

I am sure many of you have often heard mass testing called a "shotgun" method of case finding. Some of our experiences during the Greater Atlanta Survey indicate that "pinpoint" case finding can be accomplished in connection with mass testing. There is a section in the Negro business district which truly may be called the "Casbah" of Atlanta. We were highly desirous of testing in this particular area as we felt that the incidence and prevalence of disease would be abnormally high there. Finally, failing to find any suitable space in the area, a testing station was set up under a viaduct which was centrally located. During the five weeks of its operation more than 16,000 individuals were processed through this station. Findings for all tests performed on this group are not yet available, but a tabulation of serologic findings indicates a reactor rate of approximately 32.6 per cent compared to a reactor rate of approximately 9.8 per cent for the total 228,000 persons given serologic test in the survey. Sample checks indicate a proportionately high rate in other examinations.

The Georgia plan of mass testing includes the fullest possible utilization of all informational media, ranging from restrained to flamboyant. Newspapers, radio stations, posters, pamphlets, car cards, sign boards, mobile public address systems, as well as intensive "word-of-mouth" campaigns through intensive community organization are all employed to motivate individuals

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to volunteer for the tests. On the opening day of the Atlanta survey arrangements were made for full newspaper and radio coverage as Governor Talmadge and other well known persons were among the first to be tested at various stations.

For a thirty-six day period during the Atlanta survey public transportation was frozen by a bus and trolley strike. It seemed inevitable that the program would suffer immeasurably during this period. However, due to the accessibility of stations and excellent publicity, the survey suffered less than was expected.

Each station in the Greater Atlanta program was geared to process from 80-100 persons per hour. Seven to ten minutes were required to process an individual. The following tests were performed: serologic test for syphilis; blood sugar determination; hemoglobin determination; chest x-ray for tuberculosis, heart abnormalities and other chest diseases; check of height and weight; and oral and dental examination.

Although it is not possible to give a final tabulation at this time, a few preliminary figures, subject to correction, are available for all tests. Some are from laboratory reports and some from a tabulation of the first 200,470 records punched.

For the serologic test for syphilis the Venereal Disease Research Laboratory (V.D.R.L.) slide flocculation technic was employed. All individuals with a positive or weakly positive reaction were requested to report to the diagnostic and referral station for further examination. When indicated, a second serologic specimen was submitted to the laboratory and tested by both the V.D.R.L. and Kahn technics. The results of both tests were reported to the physicians in the diagnostic and referral station.

According to laboratory reports, out of 228,266 tested for syphilis, there were 22,395 or 9.8 reactors. Of these, 14,317 or 6.3 per cent were positive and 8,078 or 3.5 per cent were weakly positive.

Contact investigation was integrated with public information and the serologic test in our syphilis case finding effort. Trained and experienced communicable disease investigators interviewed all patients diagnosed as having syphilis. They interpreted our findings to the patients and arranged for their treatment either by private physicians or at Alto Medical Center. All infectious or potentially infectious cases were interviewed for contacts at the survey referral center. Investigation of these contacts turned up more than half the total cases of primary and secondary syphilis discovered in the survey, cases which would not have been discovered had contact investigation not been employed.

The 70 mm. photofluorographic units were used for making the initial chest x-ray. All individuals with x-ray evidence suggesting tuberculosis or other significant chest diseases were requested to report to the diagnostic and referral center for further examination, including further confirmatory tests such as sputum, and tuberculin, and a 14x17 x-ray film as indicated. Those for whom the initial 70 mm. film was unsatisfactory were requested to return to any of the primary testing stations for a repeat film.

Tentative tabulations of total x-ray results indicate that of 213,488 examinations completed, 1,648 or 0.77 per cent cases of tuberculosis were found. Of the 1,648 cases of tuberculosis found, 287 were classified as "active," 794 were classified as "questionably active," and 567 were classified as "inactive." Of these, 1,347 were "previously unknown" and 301 were "known" cases. At the request of private physicians and health department clinics, 262 cases were recommended for admission to a sanatorium.

In addition to these cases of tuberculosis, 699 cases were classified as suggestive and 1,738 examinations were incomplete. For chest disease other than tuberculosis and cardiovascular, 666 individuals were referred to their private physicians. This included 52 individuals with a tentative diagnosis of pneumoconiosis.

The physicians reading the 70 mm. x-ray films were requested to "over read" for possible cardiovascular abnormalities. All films in which a possible abnormality was noted were then referred to special cardiac consultants for further study and recommendations. Upon the recommendation of the cardiologists, individuals were referred to their private physicians along with a transcript of preliminary findings. Final tabulations show that 2,376 or 1.1 per cent of the 213,488 individuals included were referred to their physicians for further observations or treatment for cardiovascular conditions.

The screening level for height and weight was 25 per cent variance according to a standard height, weight, sex and age chart. Individuals exceeding this limit were advised to consult their personal physicians. Statistics are not yet available.

The copper sulphate specific gravity method was used for the hemoglobin examination. In consultation with an advisory committee from the medical association, it was decided that all males with hemoglobin concentrate below 11 grams per cent and all females with hemoglobin below 10 grams per cent were to be referred to their private physician for further study. Later, on further evaluation of this method, it was found that what had been considered 10 grams per cent was closer to 10.7 grams per cent with a standard deviation of ± 0.8 and the so-called 11 grams per cent was 12.3 grams per cent ± 0.6 standard deviation. Analysis of the results of the hemoglobin test will be considered on this basis. A preliminary tabulation shows that of 180,128 persons tested, 9,749 or 5.4 per cent were found to be abnormal by the standards just described.

The dental examination included extra-oral examination of head, face and neck as well as an oral examination. The examining dentists were able to check on enamel dystrophies, the condition of the mucous membrane, periodontal diseases, carious conditions, missing teeth, replacements and occlusions and to suggest referral for more thorough examinations.

Preliminary figures show that approximately 21.0 per cent of individuals examined were advised to visit their dentist immediately for treatment. Another 49.3 per cent were referred for more extensive examination. Those individuals found to have possible infections or neoplastic disease were requested by letter to report to the diagnostic center for further examination by a specialist in oral pathology.

Preliminary figures show that of the 213,019 individuals having the dental examination, 1,300 or 0.6 per cent were requested to report to the diagnostic center for further examination. Of the 708 of these who did report for further examination, 166 had extra-oral lesions, and 442 were termed neoplastic or precancerous. Only nine were definitely termed cancerous, but biopsy reports were received on very few of the 258 persons given letters of referral for further diagnosis by private physicians and dentists. We feel confident that more complete reporting would increase this figure considerably.

The newly developed anthrone test was used in making blood sugar determinations. This is a true carbohydrate method, and the readings are on the average 30 mg. per cent lower than those determined by the method of Folin and Wu.

Prior to the opening of the survey, it was decided in discussions with the medical association that definite referral standards would be established in cooperation with our medical advisory committee and that suspected individuals would be referred to private physicians on the basis of these standards without further confirmatory or diagnostic tests by the Health Department. It was then decided that individuals would be referred to private physicians if suspected of abnormal sugar metabolism when their blood sugar exceeded:

(1) 130 mg. per 100 cc. blood four or more hours since their last meal.

(2) 170 mg. per 100 cc. blood regardless of dietary history.

Shortly after the survey opened we were informed by a number of physicians that confirmatory tests for a number of patients referred under standard No. 1 did not indicate blood sugar abnormality. Upon investigation we found that little or no reliance can be placed on dietary history taken during the rapid processing of individuals along the testing line. We then adopted a policy, with the approval of our medical advisory committee, of referring to private physicians only those individuals covered by standard No. 2. We realize that this policy probably caused us to miss a number of individuals who should have been referred for further examination. We are now in the process of working out plans and procedures where individuals falling in group 1 can be called back to the survey diagnostic center for a rapid confirmatory test before being referred to a private physician.

A tabulation of laboratory results indicates that 7,051 or 3.3 per cent of the 211,639 individuals tested for diabetes gave abnormal tests. Since we receive no follow-up reports from the physicians we have no way of determining the number of actual cases of diabetes uncovered. In future surveys we hope to obtain this information.

Although there are no statistics available at present as to the socio-economic classes attracted by the survey, it is believed that all classes were well represented, largely due to the careful selection of station locations.

Tabulations of the first 200,000 cards punched show that 56.7 per cent of those tested were white and 43.3 per cent were Negro. Of the total, 25.6 per cent were white males, 31.6 per cent were white females, 20.4 per cent Negro

males and 22.9 per cent Negro females. Of the total tested, 45.0 per cent were between the ages of 20 and 39.

The data which have been presented today are merely to give some idea of the type and number of conditions suspected or found. It is believed that the Greater Atlanta Survey has substantiated the assumption that a multiphase testing project, with proper publicity and choice of station locations, is a most effective method of getting masses of people in for examination.

DISCUSSION (*Abstract*)

Dr. T. F. Sellers, Atlanta, Ga.—As Dr. Bowdoin said, when the transportation strike occurred in Atlanta, we feared that our survey was going to suffer tremendously. While there was a definite reduction in the daily load necessarily, it was remarkable how well it was sustained during the five weeks transportation strike. One little episode which he did not mention, and which climaxed this survey, was a jamboree, which was arranged by the Negro radio station and the *Daily World*, a Negro paper, together with all agencies involved, given in the stadium of Atlanta University, in which entertainers from all over the country participated. The admission ticket to this jamboree was the health card given in the course of this survey, with the identification number on it. Eighteen thousand Negroes assembled in this jamboree for a five-hour entertainment. It gained in momentum as it went along, and it was the most remarkable show that has ever occurred anywhere in this country for Negroes.

The cooperativeness of the Negro population in the Greater Atlanta area on this occasion is certainly ample testimony of what we have often observed: that the people easiest to work with and most appreciative of public health services are the Negroes.

UNDETECTED DIABETES AMONG THE RELATIVES OF DIABETICS*

AN EPIDEMIOLOGIC NOTE

By MALCOLM J. FORD, M.D.†

and

BARBARA GLENN‡

Jacksonville, Florida

As the problem of chronic disease has increased in magnitude, the need for control measures has become apparent. Before a specific program for control can be applied, the behavior of a given disease in a human community must be understood. The epidemiologic method developed first for the study of communicable disease may be applied to the study of chronic disease. The American Epidemiological Society has defined epidemiology as:

"The science which concerns itself with the natural history of disease as it is expressed in groups of persons related by some common factor as age, sex, race, location or occupation, as distinct from the development of disease in individuals."[1]

Maxcy[2] defines epidemiology as:

"The field of science dealing with the relationships of the various factors which determine the frequencies and distributions of an infectious process, a disease, or a physiologic state in a human community."

Gordon[3] emphasizes that epidemiologic methods are applicable to the control of many community health problems:

"It is reasonable to apply the technics upon which all community health practice is based, whether the problem is of the communicable diseases, or cancer, diabetes, nutrition or other. In essence, this includes an initial epidemiologic analysis followed by a focal attack on the places and toward the situations when the condition has been demonstrated to be most pronounced."

While the study of epidemics of communicable disease has become accepted public health practice, generally noncommunicable disease has been inadequately studied by epidemiologic methods. In the field of diabetes control, we have attempted by epidemiologic methods, to define a group in the community among whom diabetes is especially prevalent, namely, the relatives of diabetic patients.

The clue for a community study was found in the work of scientists who have studied the pattern of diabetes in the most important population unit, the family.

Medical literature abounds with evidence that diabetes tends to run in families.[4-16] In his long practice, Joslin[6] assembled extensive data on the family histories of diabetic patients. He has concluded that the influence of heredity is of prime importance in the etiology of diabetes. Pincus and White[7 8] have observed that the incidences of diabetes are significantly higher in families of diabetic patients than in families of nondiabetic patients. They say:

"It can be demonstrated that the observed occurrence of diabetes in the children of the diabetic families is in accord with the hypothesis that potentiality for developing diabetes is inherited as a simple Mendelian recessive."

*Read in Section on Public Health, Southern Medical Association, Forty-Fourth Annual Meeting, St. Louis, Missouri, November 13-16, 1950.

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According to Mendel's theory, inherited characteristics are produced by genes, which are handed down unchanged from one generation to the other. These genes are found in pairs in each individual. Where the two genes in a pair are different in their effects, one gene dominates the other, so that one might be referred to as "dominant" and the other as "recessive." In the case of diabetes, a pair of recessive genes are responsible for the inheritance of the potentiality. It is necessary that both parents contribute a diabetic gene. Pincus and White have even estimated the probability of a given individual's developing diabetes, if his parents are diabetic or diabetic carriers. For example, at one end of the scale, the chances of a diabetic and a "true nondiabetic" having a diabetic child are nil. On the other hand, if both parents have diabetes, all their children are destined to develop the disease, provided they live long enough.

Burnstein and Patterson[15] have presented the lineage of five generations of a diabetic family, beginning with the marriage of two individuals who developed diabetes late in life. The descendants numbered 161 persons of whom 55 have become diabetic.

GENERAL PLAN OF STUDY

The following study of undetected diabetes among the relatives of diabetics was conducted by the Diabetes Branch of the U. S. Public Health Service.

In February 1947, a diabetes demonstration unit was instituted in Jacksonville, Florida, with the support and cooperation of the Florida State Board of Health, the health departments of Duval County and Jacksonville, and the Duval County Medical Society. The area of operation was Duval County, including Jacksonville. The population of the county is 302,695 of whom 203,370* live in Jacksonville. A complete report on the objectives and activities of the diabetes demonstration units will be published elsewhere.

A primary objective of the unit was mass screening with referral of suspected cases to physicians for diagnosis and treatment. With limited resources, the aim was to make an efficient attack on the problem. Among the groups in the community selected for diabetes testing were the relatives of diabetic patients.

First the unit obtained a list of known diabetics in the area from the local hospitals and practicing physicians. By the end of the first year 693 diabetic patients were added to the case record file; and the list has been gradually expanded to include about 1,200. The public health nurses of the cooperating agencies then called on these known diabetics, and recorded certain information, such as identifying data, duration of disease and presence of complications, insulin dosage, and diet prescription. In addition, the nurses obtained the names and addresses of the relatives of patients living in the study area and determined which were known diabetics. The relatives listed were limited to parents, children, brothers or sisters, grandparents, aunts or uncles, nieces or nephews, first cousins and grandchildren. The relatives were then sent a form letter asking them to come in for a diabetes test at one of the three weekly clinics. Those relatives who were already known to have diabetes were excluded from the study. Of the first 1,680 relatives invited to a testing clinic, about one-third responded and were examined. Because of the general publicity, other people who were related to diabetics came to be examined without a specific request.

At the testing clinic, a short history of the individual was taken, including identifying data, time since eating, and food intake. Those taking the history tried by careful questioning to exclude from the study all persons with a previous diagnosis of diabetes. Next a specimen of blood, venous in most cases, and a urine sample were taken for sugar determination. Whenever possible, these specimens were taken from one to two and a half hours after a meal. All those with blood sugar readings above 160 mg. per cent for venous blood* and above 190 mg. per cent for capillary blood† were called in for a second examination. Individuals screened out were either given a repeat of the original tests or a standard 100-gram two-hour glucose tolerance test. Generally the glucose tolerance test was performed, unless the initial blood sugar was very high. In this case a postprandial re-examination was preferred. If, on repeated examination, the individual showed blood sugar readings of 170 mg. per cent or more (venous Folin-Wu) associated with glycosuria of 0.5 per cent or more, he was considered a "newly suspected diabetic." All individuals with these findings were referred to the practicing physician. For all those suspected dia-

*1950 Census.

*Folin-Wu method of analysis.
†Folin-Malmros method of analysis.

betics discovered, a clinical diagnosis of diabetes has been made by the physician of the patient's choice.

Prevalence of Undetected Diabetes Among the Relatives of Diabetics by Age. — In the three years, 1947 to 1950, 1,741 relatives of diabetics were tested for diabetes. As a result, 73 new cases of diabetes were discovered, or 4.2 per cent of those tested. Three other individuals who were negative on first examination were later discovered to have diabetes. As one might expect, the rate of new cases is higher for the older age groups. For example: 3.7 per cent of those from 25 to 44 years were discovered to have diabetes; while 10.6 per cent of those over 45 years were diagnosed as diabetic.

The number of diabetics discovered is closely related to the age distribution of the group examined, since the onset of diabetes cases is generally after age 45. If the majority of diabetic relatives tested had been over 45 years, that factor alone would explain the high rate of new cases. Such was not the case. The age distribution of the group examined is not representative of the general population. The group of relatives contains a smaller proportion of persons under 25 years and a larger proportion from 25 to 44 years than does the United States. However, the percentage of individuals over 45 years is about the same as that in the population of the United States. The percentage of individuals over 45 in the group examined was 25.3 as compared with 26.6 for the population as a whole.

RESULTS OF DIABETES TESTING PROGRAM AMONG 1,741 RELATIVES OF DIABETICS IN JACKSONVILLE, FLORIDA, BY AGE, APRIL 1947 TO MARCH 1950

Age Group	Total Tested	Diabetics Discovered	
		Number	Per Cent
Total	1,741	73	4.2
Under 15	316	—	—
15-24	277	1	0.4
25-34	366	8	2.2
35-44	342	18	5.3
45-54	201	18	9.0
55-64	154	18	11.7
65 and over	77	10	13.0
Unknown	8	—	—
Summary under 15	316	—	—
15-24	277	1	0.4
25-44	708	26	3.7
45 and over	432	46	10.6

Table 1

The age composition of the groups examined in the three years of the study differed. The groups examined during the second and third years contained more individuals over 25 years of age than the group examined during the first year.

Now let us see what would happen if the percentages of cases discovered in the different age groups were applied to a group with exactly the same proportion at each age that the population of the United States had in 1940. This process of age adjustment measures the extent to which the age distribution of the group examined affected the rate of cases discovered.

The percentage of cases discovered is 4.2 for the total experience; and this rate is remarkably consistent for each of the three years of the study. When these rates are adjusted for age, the percentage of new cases is lowered slightly to 4.0.

Prevalence of Undetected Diabetes by Sex.— The group of diabetic relatives was composed of 1,095 females (63 per cent of the total) and 646 males (37 per cent). Since the relatives were invited to clinic without regard to sex, it is apparent that the response of the women was

PERCENTAGE AGE DISTRIBUTION OF 1,741 RELATIVES OF DIABETICS TESTED IN JACKSONVILLE, FLORIDA, COMPARED WITH POPULATION OF UNITED STATES, 1940

Age Group	United States 1940	Percentage in Each Age Group Diabetic Relatives			
		Total 1947-50	First Year	Second Year	Third Year
Total	100.0	100.0	100.0	100.0	100.0
Under 15	25.0	18.2	25.5	14.6	10.0
15-24	18.2	15.9	17.3	13.8	16.2
25-44	30.1	40.6	36.0	44.8	43.5
45 and over	26.6	25.3	21.2	26.8	30.3

Table 2

RESULTS OF DIABETES TESTING PROGRAM AMONG 1,741 RELATIVES OF DIABETICS IN JACKSONVILLE, FLORIDA, BY YEARS 1947-1950

	Total Tested	Diabetics Discovered		
		Number	Per Cent Un-adjusted	Per Cent Age Adjusted
First year	753	32	4.2	4.8
Second year	549	23	4.2	3.8
Third year	439	18	4.1	3.4
Total 1947-1950	1,741	73	4.2	4.0

Table 3

better. Diabetes has been repeatedly cited as being more common among women. However, in this group the prevalence of undetected diabetes was 4.2 per cent both for males and females. When adjusted for age, the rate of cases found was 4.0 per cent for males and 3.9 per cent for females. Therefore, it does not appear that the larger number of females in the group was an important factor in the high rate of new cases observed.

Prevalence of Undetected Diabetes by Race.— Jacksonville has a large concentration of Negro population amounting to about 33 per cent of the total. In the group of diabetic relatives, 26.6 per cent of the total examined were Negroes. The percentage of white people found to have diabetes was 4.5; for Negroes it was 3.5 per cent. It does not appear that the racial composition of the group had an important effect on the rate of new cases observed.

Comparison of Undetected Diabetes in Diabetic Relative Group with Other Groups Examined in Jacksonville. — In addition to the diabetic relatives studied, in the first year of operations the following other groups were tested for diabetes: foodhandlers, a factory group, an office group, and a general group tested at routine clinics. The total in these groups was 2,416 of whom 178 were related to diabetics. While these groups are not necessarily representative of the general population, they are groups it is reasonable to approach in a mass testing program for diabetics. Of the 2,416 individuals in these groups, 20 new cases of diabetes were found or 0.8 per cent. The age adjusted rate for these groups was 0.8 per cent as compared with 4.0 per cent for the diabetic relatives studied. Therefore, the examination of the diabetic relatives was about five times as effective as was examination of the other groups selected.

RESULTS OF DIABETES TESTING PROGRAM AMONG 1,741 RELATIVES OF DIABETICS IN JACKSONVILLE, FLORIDA, BY AGE AND SEX, 1947-1950

	Male				Female			
		Diabetics Discovered				Diabetics Discovered		
			Per Cent				Per Cent	
Age Group	Total Tested	Number	Unadjusted	Age Adjusted	Total Tested	Number	Unadjusted	Age Adjusted
Total	646	27	4.2	4.0	1,095	46	4.2	3.9
Under 15	155	—	—	—	161	—	—	—
15-24	121	—	—	—	156	1	0.6	—
25-44	231	13	5.6	—	477	13	2.7	—
45 and over	138	14	10.1	—	294	32	10.8	—
Unknown	1	—	—	—	7	—	—	—

Table 4

RESULTS OF DIABETES TESTING PROGRAM AMONG 1,741 RELATIVES OF DIABETICS IN JACKSONVILLE, FLORIDA, BY AGE AND RACE, 1947-1950

	White				Negro			
		Diabetics Discovered				Diabetics Discovered		
			Per Cent				Per Cent	
Age Group	Total Tested	Number	Unadjusted	Age Adjusted	Total Tested	Number	Unadjusted	Age Adjusted
Total	1,278	57	4.5	3.9	463	16	3.5	3.7
Under 15	217	—	—	—	99	—	—	—
15-24	196	—	—	—	81	1	1.2	—
25-44	530	20	3.8	—	178	6	3.4	—
45 and over	328	37	11.2	—	104	9	8.6	—
Unknown	7	—	—	—	1	—	—	—

Table 5

Comparison of Undetected Diabetes in Diabetic Relative Group with General Groups Examined in Massachusetts. — In Oxford and Brookline, Massachusetts, 6,628 individuals from general population groups were examined for diabetes. Of these 3,516 represent a 70 per cent sample of the population of Oxford and the remaining 3,112 were examined in Brookline as part of a community survey. There was no attempt at selection of groups among whom diabetes might be especially prevalent. In this group of 6,628 individuals, 59 diabetics were discovered; thus the prevalence of undetected diabetes was 0.9 per cent. In the relative group in Jacksonville 1,741 individuals were examined with the discovery of 73 diabetics, a rate of 4.2 per cent. The age adjusted prevalence rate for the Massachusetts general group is 0.7 per cent as compared with 4.0 per cent for the Jacksonville relative group. Therefore, about five times as many cases were found among the relatives as were found in a general population group. For each age group, with the exception of those under 15 years, the rate of diabetes discovered for the relatives are significantly higher than those of the Massachusetts general group.

Value of Finding in Developing Control Methods for Diabetes. — Rapid strides toward streamlining of screening methods for diabetes mellitus have been made. However, to make sure the most efficient use is made of these procedures, we should concentrate them in areas of the population where incidence of the condition is relatively high. This principle can be applied to any other disease or condition. In screening for diabetes we should concentrate on adults and particularly those who are related to known diabetics. The method described in this paper is only one which might be used to reach this fairly well defined group. Physicians treating diabetics should accept the responsibility of seeing that all blood relatives of these patients are tested for diabetes. Diabetics themselves should be taught to test their relatives' urine or urge them to contact physicians for testing. A concerted effort along these lines will bring to light a large proportion of the estimated one million undiscovered diabetics in the United States. Therein lies a golden opportunity in preventive medicine.

SUMMARY AND CONCLUSION

(1) Epidemiologic methods in the study of diabetes may be used to help develop control measures.

(2) A diabetes demonstration unit was founded in 1947 in Jacksonville, Florida, to explore methods of diabetes control in the community. The program was a cooperative endeavor of the U. S. Public Health Service, the state and local health departments and the local medical society. As a primary objective, the unit carried on case-finding activities with referral of suspected cases to physicians for diagnosis and treatment.

(3) Through the testing program, the unit has defined a group in the community among whom diabetes is especially prevalent: the relatives of diabetic individuals. During a three-year period, 1,741 relatives of diabetics were given laboratory tests for diabetes. As a result, 73 new cases of diabetes were discovered or 4.2 per cent. The percentage of new cases discovered was approximately the same for the three years of the study.

(4) The age distribution of the group of diabetic relatives examined does not account for the rate observed. When age-adjusted, the rate of new cases is changed from 4.2 to 4.0 per cent. Diabetes was prevalent both among males and females in the group, also among both whites and Negroes examined.

(7) The percentage of diabetes cases detected among the relatives of diabetics was found to be about five times higher than the percentage found in general population groups.

(8) The public health value of the finding lies in the knowledge that concentrated efforts among this group will yield definite achievement in the field of preventive medicine.

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DISCUSSION (*Abstract*)

Dr. C. D. Bowdoin, Atlanta, Ga.—Dr. Ford's work has been a stimulus to the rest of us who have been interested in the field of chronic disease. While we have not carried out the same procedure which he has, nor the Wilkinson technic, which has been developed by this group, all of us working at the problem can try to develop newer and better technics.

The anthrone test, about which I spoke, is a true carbohydrate test, and was developed by a chemist at the Eastman Kodak Company, as a commercial test for carbohydrates, with no thought in mind of its ever being applied as a physiologic test. Dr. George Lewis and his group at Emory University took up the test and experimented with it for several years and then our chemist in industrial hygiene picked it up and further modified it. It can be done very rapidly. Having already drawn the blood for a syphilis test, we pipetted 0.4 cc. of blood into a very dilute solution of trichloacetic acid which deproteinizes the blood. The supernant fluid then is decanted, the dye, which is dissolved in sulphuric acid, is added, and the color reading is immediately available. It is a test, which I think, could well be used in the private physician's own laboratory, as a very rapid test. We have done it when the blood was being drawn and a reading was obtained within a period of about twenty minutes.

INGUINAL HERNIAS: WHY DO THEY RECUR?*

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In operating for inguinal hernia every thoughtful surgeon will constantly bear in mind the relatively high recurrence rate as reported in the contemporary literature. The surgeon who approaches the operation lightly, without bearing this in mind, is inviting a higher percentage of recurrences than is necessary. I shall not attempt to analyze the current statistics on recurrences. Such an attempt would be largely fruitless. We all know that recurrences, as reported in the literature, vary anywhere from 1 to 2 to 20 per cent, or even more. We also know how difficult it is to get accurate statistics, no matter how careful and honest the surgeon reporting the figure may be. The important point is that all surgeons have recurrences, some more and some less. It follows then that no surgeon can definitely assure any patient with inguinal hernia that the operation will certainly cure him. This is disconcerting to the surgeon and discouraging to the patient. The best we can do is to reduce the uncertainties to a minimum. In order to do this, we should constantly re-examine our methods with a view to obtaining as nearly as possible a perfect performance.

It goes without saying that a *sine qua non* of hernia repair is that the surgeon have a thorough knowledge of the anatomy of the inguinal region, of surgical technic, and of the fundamental principles involved in tissue repair. All too frequently young surgeons in residency training are turned loose to operate upon hernias by themselves without having had proper instruction in the principles involved. In this paper, I shall make no attempt to deal with the pitfalls in the paths of inexperienced or incompetent surgeons. Neither shall I deal with such trite reasons for recurrence as poor asepsis, or improper hemostasis. Taking it for granted that the surgeon is well grounded in the fundamental principles of surgery, some of the fundamental factors influencing recurrence I believe may be handled under the following headings:

(1) Proper method of handling the sac (generally agreed upon).

(2) Four other technical matters relating to recurrence.

- (a) Areolar tissue left on important structures which are to be sutured together.
- (b) Tension.
- (c) The use of absorbable sutures.
- (d) Repair of defects caused by poor tissues.

(3) The handling of sliding hernia.

(4) Bilateral operation.

(5) Handling of the testicle in recurrent hernias.

(6) Postoperative care.

Method of Handling the Sac.—High ligation of the sac in indirect hernias has been an axiomatic principle for many years. As a rule, this is done by dissecting the sac free in the inguinal

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canal region, and transfixing and ligating it so high up that there is left no process or teat of peritoneum projecting from the peritoneal cavity through or into the internal inguinal ring. This, if properly done, is a very effective procedure. The method of LaRoque[1] is also very valuable in sliding hernias and in recurrent hernias in which the relations of the sac are not clear from the inguinal canal approach. The LaRoque method consists of a muscle-splitting incision above the internal ring, opening the peritoneal cavity, invaginating the sac from below up into the peritoneal cavity, and dealing with it there, thus securing a very high ligation. Recently Jacobson[2 3] has advocated using LaRoque's approach without invaginating the sac into the peritoneal cavity, but excluding the opening of the sac from the peritoneal cavity by suturing the upper flap of the incised parietal peritoneum to the lower border of the ring forming the neck of the sac. He leaves the sac in place, simply splitting it open longitudinally, and claims that its presence adds to the fibrous strength of the floor of the inguinal canal. He reports excellent results with this method.

In the case of direct inguinal hernia, the handling of the sac is a different matter. If the sac is large, I think it should be opened and the excess peritoneum resected. If it is small, there is no reason why it should not simply be pushed back. The important thing is the proper closure of the fascial defect in Hesselbach's triangle. This will be discussed later. In dealing with either an indirect or a direct sac, however, the surgeon should make sure that a sac of the other type is not present, which was not apparent at first. Pantaloon type hernias are rather common. LaRoque's approach greatly facilitates the search for sacs other than the obvious one first encountered. Not only are inguinal hernia sacs readily located, but the femoral canal may be explored, and also the finger inside the peritoneal cavity enables the surgeon to determine readily the weak spots in the floor of the inguinal canal.

It is not within the scope of this paper to discuss the relative merits of the various standard operations for inguinal hernia. It is well known that good results have been obtained from all of them. I simply want to discuss some general principles, the observance of which I believe will diminish the recurrence rate no matter what type of operative repair is used. The proper handling of the sac has been stressed for so many years that it is assumed that that is initially accomplished by every good surgeon. I would like to discuss, then, what I consider to be four of the principal causes of recurrence so far as the operation itself is concerned, after the sac has been properly dealt with. They are: (1) the presence of areolar tissue left on important structures which are to be sutured together; (2) tension; (3) the use of absorbable sutures; and (4) poor tissues.

Areolar Tissue. — The importance of thoroughly removing areolar tissue from all important structures before they are sutured together was, I believe, amply demonstrated by me[4] experimentally about twenty-five years ago. The presence of areolar tissue on any structures to be sutured together results in a poor filmy, flimsy type of union, which has no strength whatsoever. Thorough removal of areolar tissue from such structures as muscle or fascia before they are sutured together, brings these structures into more intimate contact and results in a type of union as strong as the sutured structures themselves. In operating for recurrent hernia, every surgeon has repeatedly seen the internal oblique muscle thoroughly united to Poupart's ligament throughout part of the suture line, but pulled away throughout the remaining portion. What is the cause of this firm healing in one place and complete lack of healing in the other? It might possibly be that areolar tissue was cleaned away in a portion of the suture line and not cleaned away in the remaining portion. Tension undoubtedly plays a part. Be that as it may, I am convinced that a great many surgeons do not pay enough attention to removing areolar tissue thoroughly from important structures before suturing them together.

Tension.—The avoidance of tension in surgery has been so often stressed and preached as to be almost proverbial. Professors of surgery especially have stressed the importance of this in operations for hernia, yet we have all seen these same professors in operating upon cases of hernia bring the structures together under such tension that the feat would have been impossible but for the heavy suture material they were using in the repair. It is certainly true that there are cases in which some tension is unavoidable. However, in operating for inguinal hernia, utilization of the relaxation incision in the sheath of the rectus muscle, which was introduced by Halsted[5] many years ago, will in most cases entirely eliminate any tension in the structures which are to be sutured together. Exposure of the rectus sheath

is easily accomplished by simply lifting up the inner flap of the aponeurosis of the external oblique and separating it from the rectus sheath by blunt dissection with the finger. (In operating for recurrent hernias this will often require sharp dissection.) The relaxation incision is made from the symphysis upward for approximately three inches and should be made over the center of the rectus muscle, close to the reflection of the aponeurosis of the external oblique. If the incision is made near the edge of the rectus muscle, the cut edge of the sheath may be retracted away from the muscle when the conjoined tendon is sutured to Poupart's or Cooper's ligament, as the case may be. Many years ago Halsted pointed out that such a gap left along the lateral edge of the rectus weakens the abdominal wall at that point.

Absorbable Sutures.—No one will challenge the point that the cure of inguinal hernia depends upon the structures used in the plastic repair remaining closely in apposition until firm healing is obtained. It is also generally agreed that there are many variables in the rate of absorption of absorbable sutures such as catgut, and that no one can tell when these materials are going to be absorbed rapidly, or when they will persist until healing is complete. Unless they do remain in place and retain their tensile strength until healing is complete, it is obvious that recurrence will result. Many surgeons have reported higher recurrence rates with absorbable than with nonabsorbable sutures. Parsons[6] reported a recurrence rate of 12.7 per cent when catgut was used, and one of only 3.5 per cent when silk was used. It seems obvious then that in hernia repair nonabsorbable sutures should be used and that to use absorbable sutures is only to invite disaster. I personally prefer silk or cotton, and of a fairly large caliber, so that it will not cut through. These sutures should be tied snugly but not tightly. I do not like wire sutures because they do tend to cut through.

The only objection to silk or cotton is that in those cases in which the wound becomes infected, a sinus tract persists until the offending suture is removed. However, infections in clean wounds are very rare these days and the occasional one can be almost completely eliminated by giving penicillin prophylactically for a few days postoperatively.

Poor Tissues. — Every surgeon has operated upon cases with such poor tissues that he felt foredoomed to a recurrence while still at the operating table. Large direct hernias, large indirect scrotal hernias of long standing, and recurrent hernias are the type which are prone to have such poor tissues. Often there is no transversalis fascia to be found any place. In the case of direct hernias there would have been no hernia if the patient had had good transversalis fascia to start with. A relaxation incision in the sheath of the rectus aids in bringing the poor structures into apposition but cannot supply the frequent woeful lack of tissues with which to make the repair. It is fine to talk about fascia to fascia closure, but what is one to do if the fascia just is not there? Various successful methods have been used to supply the defect, such as flaps of fascia, free transplants of fascia, preserved sheets of fascia,[7] and autogenous[8 9] and preserved[10 11] strips of fascia. All of these methods have been used with varying degrees of success. For the past two and one-half years, in those cases with poor tissues and large defects, I have been using a piece of tantalum mesh in Hesselbach's triangle to reinforce the first suture line,[12] generally the conjoined tendon to Cooper's ligament. The time is too short to evaluate the method properly, but so far there has been only one failure, which will be discussed below. Judging from the way in which fibrous tissue infiltrates tantalum mesh experimentally,[13-17] there is every reason to believe that the ultimate results will be better than those hitherto obtained by other methods.

Sliding Hernias.—It is well known that sliding hernias are more prone to recur than the ordinary type. This is probably due to an inadequate reduction of the sliding hernia in trying to replace the involved viscus in the peritoneal cavity by pushing it up from below. LaRoque's approach makes a difficult procedure a comparatively simple one, insures complete reduction of the hernia, and a proper handling of the sac. The use of this method should greatly reduce the recurrence rate for sliding hernias. The use of the method for sliding hernias has recently been very ably and lucidly described by Carrington Williams.[18]

Even with the LaRoque approach the operation for sliding hernia is not always easy. Within the last year I have had two cases of large scrotal sliding hernias in which the mass was so large that it could not be reduced through the internal ring, although the abdominal cavity had been opened and traction was exerted from above while the mass was pushed upwards from below.

In both of these instances it was necessary to cut across the oblique muscles between the abdominal muscle-splitting incision and the internal ring. This made the reduction easy. The incision through the oblique muscles was made at the linea semilunaris so there would be fascial structures utilizable in suturing the structures together again.

Bilateral Operation.—It has long been considered that the bilateral operation rendered the recurrence rate higher. Many articles have been published reporting recurrence rates many times as high when the bilateral operation was performed as when each side was done separately. It is my feeling that the bilateral operation can be done uniformly successfully if the patient has reasonably good structures and adequate relaxation incisions are made in the sheath of the rectus on each side. The important thing is to do the operation without tension and not have one side pulling against the other. When I encounter such a large defect, or poor tissues, in operating upon the first side that I think it inadvisable to do both sides at once, even though it had been originally planned, I do not hesitate to stop after doing the first side and then explain to the patient later the reason for it. If the patient consents, I do the other side in about a week or ten days. My one failure in almost five years was in a bilateral recurrent case in which I unexpectedly encountered very poor tissues and a big defect on the second side, necessitating a great deal more tension than was desirable. Examination before operation, and the relatively good structures encountered on the first side, had afforded no inkling of this. A small piece of tantalum mesh was used to reinforce the poor structures, but I now know that the piece was not nearly large enough. The hernia recurred in a few months and was immediately again repaired, this time using a larger and adequate piece of tantalum mesh. So far (nine months) the site is very strong and I have every reason to believe that it will remain so.

Handling of Cord and Testicle in Recurrent Hernias.—A great many surgeons feel that it is necessary to remove the testicle in certain recurrent hernias, especially those that have been several times recurrent, in order to effect a cure. I do not believe that this is often the case. The cord is seldom a deterrent to the cure of a hernia. Besides, many patients will not submit to operation if they are told that they are going to lose a testicle thereby, even though they are assured that they will get along just as well with one testicle as with two. Even if it is correct that they can get along physiologically just as well with one as with two, a great many patients still consider unilateral orchidectomy to be surgical mayhem. During the last year I have had two cases in which I felt it desirable to resect the cord, although the testicle was left. Both of these were recurrent hernias, two and three times recurrent. In the first case the cord came directly through the abdominal wall at the internal ring instead of coming through in the usual oblique manner. The opening through which the cord emerged from the abdominal cavity was large and rigid due to dense scar tissue. I felt that the opening could not be closed satisfactorily leaving the cord in place. I therefore ligated the cord at both the internal and external rings and resected the intermediate portion. This allowed a complete closure of the internal ring. In the second case, the cord was so fanned out and distorted from two previous operations that it was not possible to salvage it, so it was dealt with just as in the other case. In neither of these cases had I requested permission ahead of time to remove the testicle. Simply removing the cord got around that difficulty. Atrophy of the testicle did not ensue in either of these cases. Burdick and Higinbotham[19] in 1935 reported 200 cases operated upon with resection of the cord. Many of the testicles atrophied and some completely disappeared, but it was surprising how many remained apparently normal. Gangrene did occur, however, in four of the 200 cases. Grace and Johnson[20] say that necrosis of the testicle occurs only when it is disturbed from its normal attachments during the resection of the cord.

Postoperative Care.—I am convinced that many recurrences occur early, sometimes even before the patient leaves the operating table. The cause of such recurrences is straining under anesthesia, which results in either breaking the sutures or tearing them from the structures into which they have been placed. Recently while operating upon a big muscular man for a large ventral hernia under cyclopropane anesthesia, the anesthetist attempted to change the cannister while the patient was light. The result was that he began straining heavily and broke the mattress sutures of heavy black silk which had already been placed. These sutures broke directly under my vision and with a loud report. I am sure that sutures often break after the wound

has been closed due to the patient's straining under anesthesia. A great many anesthetists feel that a patient should be practically awake by the time the operation is over. We often see anesthetists at the end of an operation, with the patient almost awake, start to suck out the air passages and thereby induce violent straining and coughing. Nothing could be worse for a freshly made suture line. I personally like for my patients to stay beyond the straining stage until they get back to their rooms, and as soon as they start moving around in bed the least bit, to have a dose of morphia large enough to keep them quiet until the anesthetic has worn off. When I finish an operation and find that the patient is almost awake, I have the morphia given before the patient returns to his room. Once the patient is out from under the influence of the anesthetic, pain will keep him from straining enough to injure his suture line.

Straining at stool, vomiting, and coughing also put a tremendous strain on the suture line. As soon as patients are able to take it after operation, I like to prescribe one of the cellulose or gum substances such as cellothyl,® konsyl,® metamucil,® mucilose,® or saraka,® which simply form bulk and make the patient have large, soft, easy stools. This is kept up throughout the convalescence period and afterwards if necessary, and effectually eliminates all straining at stool in even the most constipated people. The Levine tube is used in people who continue to wretch and vomit postoperatively. In patients who have been operated upon one or more times before, and who know that they habitually have prolonged vomiting bouts after anesthesia, the Levine tube is either inserted before operation, or in the operating room while the patient is still under anesthesia, in order to prevent any straining which might be induced by its insertion during the postoperative period. Patients who develop coughs after anesthesia should be given sedatives, inhalations, or whatever is necessary to keep the coughing at a minimum. Abdominal distention can be reduced by the early taking of food. Naturally spinal anesthesia would eliminate some of the straining mentioned in this paragraph and the preceding one, but spinal anesthesia is not always the anesthetic of choice.

I feel that the matter of the dressing is one of great importance. The average house man these days does not believe that this is true. He puts on many layers of gauze and straps them on with only a couple of narrow strips of adhesive. I believe that a small piece of flat gauze, only large enough to cover the wound, is all that is necessary, but that this should be tightly strapped on with 3-inch adhesive tape going all the way across the abdomen, thus giving the entire involved part of the abdominal wall strong support. Not only do the patients feel more comfortable and secure with this type of dressing, but the tight strapping helps take the strain off the suture line should any of the straining mentioned in the preceding paragraphs inadvertently occur. Successful hernia repair is the result of infinite pains and close attention to every little detail.

I also believe that early ambulation is a deterrent to recurrence. It stimulates wound healing by improving the circulation and also by helping to keep the patient in positive nitrogen balance.[21] It also eliminates the strain of getting on that necessary evil, the bedpan. The effort of getting on a bedpan increases the intra-abdominal pressure as much as or more than the effort of getting out of bed.[22] The patient has a much more satisfactory bowel movement when using a commode than when using a bedpan. He is in a natural position, instead of an unnatural one, and the strain on the suture line is less.

SUMMARY

Some of the most important anatomical causes of recurrence following operations for inguinal hernia have been discussed. The importance of close attention to detail in postoperative care has been stressed. No attempt has been made to discuss elementary surgical principles in which every well trained surgeon is so well grounded. Successful hernia repair is the result of infinite pains and close attention to every detail of the operation, as well as the postoperative care.

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DISCUSSION *(Abstract)*

Dr. Leo M. Zimmerman, Chicago, Ill.—I have followed Dr. Koontz' work on hernias over a period of many years.

We all know that perhaps nowhere else in surgery is a precise knowledge of anatomy and refinement of surgical technic more important if the ever present and pressing question of postoperative recurrence is to be considered, than in the surgery of inguinal hernia.

Dr. Koontz comes to us from Johns Hopkins University. Since the days of Halsted, that institution has been associated in our minds with the utmost refinement of surgical technic. Dr. Koontz is continuing the tradition of his eminent predecessors to the benefit of surgery for all of us.

I am in entire agreement with everything that he has told us this afternoon. I use nonabsorbable sutures. I get the patient out of bed early. I use the method of transecting the cord without removal of the testicle in selected cases and believe it to be of extreme value after multiple recurrences in elderly patients. I occasionally use tantalum mesh, but usually for enormous ventral hernias. I have not employed it for the inguinal variety.

In addition to the factors which Dr. Koontz has mentioned, there are two more which I am sure he would have included had time permitted. Everyone speaks of the recurrence rate following operation for hernia. The statement itself is an error. It would be more correct to say that the recurrence rate is one per cent or two per cent or ten or twenty per cent, whatever the figure may be, for hernias as they come to us. But that rate is immeasurably higher than it should be because of the deplorable tendency on the part of the physician and the patient to postpone operation for hernia. When they come to us after wearing a truss for fifteen or twenty years because the truss has become intolerable to them, with enormous hernias, and broken in general health, we are asked to assume the problem of surgical repair without risk of recurrence. Obviously, the incidence of failures at this stage will be much greater than when operation is done in young patients with recent small hernias. It seems to me this added recurrence rate should be charged not to the surgeon who is doing his best with what is available at the time of the belated operation, but to the physician who may have years earlier prescribed the truss. If any physicians here are wearing trusses I would advise that they dispose of them and have the hernias repaired now, because if we have to operate twenty-five years from now our incidence of failure is going to be higher.

The second important factor has to do with the selection of the operation. Dr. Koontz very wisely refrained from discussing operative technics. Very often symposiums on hernia degenerate into testimonial meetings as to the merits of selective operative methods. Too often we teach our residents the methods we use and never ask ourselves how pertinent the operation is to the problem we face. It is my sincere conviction that the great majority of operations for hernia are not pertinent to the problem for which they are performed, and that in most cases, recurrences are due to the fact that the philosophy of the operation is wrong.

An indirect hernia, by definition, is a protrusion through the internal ring. Its pathology is limited to but two variations from the normal, a congenital peritoneal sac and a moderately dilated internal ring. Our standard operations often omit closure of this ring and instead plicate two or three or four layers of the abdominal musculature across the posterior wall of the canal which was intact to start with. In so doing, permanent damage is done to the physiologic mechanism which protects the internal ring.

In the case of direct hernia the problem is more difficult. The fundamental abnormality is a break through the posterior wall because of congenital absence of adequate overlying muscular support. The usual standard procedures which attempt to close this muscular defect by suture of the two sides of the triangular defect are doomed to failure in a very considerable percentage of cases. For hernias of this type a fascial plastic procedure is required.

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SOUTHERN MEDICAL ASSOCIATION

Forty-Fifth Annual Meeting

Dallas, Texas, November 5-8, 1951

EDWARD H. CARY

When the medical history of the first half of the Twentieth Century has been written, the name of Edward H. Cary, medical statesman, distinguished ophthalmologist, founder of a medical college, ex-president of the Texas, Southern, and American Medical Associations, and builder of the first Medical Arts skyscraper, will be recorded high on the list of the leaders in that era. The fascinating life story of Dr. Cary has been written under the title of "More than Armies" by Booth Mooney.* It tells how a teen-age boy who, nineteen years after the Civil War, stood with a shotgun in his hand on Chunnenugee Ridge near Union Springs, Alabama, to protect his family heritage, developed into a wise and aggressive elder statesman of the medical profession. Ed Cary never was afraid of any man or any thing in his life. Courage, ability, initiative, prodigious energy, an ambition for selfless service, and the will to carry through any venture he might undertake, are responsible for his remarkable success.

Descended from the aristocratic Cary and Powell families of Virginia and son of a Confederate officer, Ed Cary was born during the tragic era of reconstruction at a time when poverty was a badge of honor. His father, victim of an illness contracted during the Civil War, died three months after his son's birth. His proud, lovely and cultured mother provided inspiration for her son in an environment in which Henry W. Grady, William Crawford Gorgas, and many other sons of Confederate War widows, grew up to play important roles in the upbuilding of the South and the nation. Mrs. Cary with her three children moved to Texas after her youngest son had graduated in medicine in the early nineties. In that environment Ed Cary, with dreams of a great Texas, developed into the builder of realities. His achievements are well known to physicians, but his biographer has related the drama of his life in a book that makes interesting reading for his contemporaries and will provide material for future historians.

Dr. Cary is one of the few men living who did most for the upbuilding of the Southern Medical Association in its early years. At Richmond in 1914 he promised the Association that its Texas membership would be increased to a thousand if it would go to Dallas for the 1915 meeting. Actually at the end of the Dallas meeting Texas had eleven hundred members. Throughout the years since, Texas has had more members of the Association than any other state.

Dr. Cary served as Trustee of the American Medical Association for many years. As Chairman of the National Physicians' Committee he, more than any other man, prevented the socialization of medicine at a time when there was great danger of Congressional action to regiment the medical profession into government service. The author of "More than Armies," a talented Texas newspaper man, is at his best when he reports the address of Dr. Cary before a Senate committee in 1946, in which he made an eloquent and successful appeal for the freedom of the medical profession of America.

If Dr. Cary were asked to name his greatest achievement in life, he would reply: "My success in winning the heart and hand of Georgie Schneider." Fame and fortune have not changed the Carys. They are the same friendly, generous, unpretentious couple, who have added charm,

*Mooney, Booth: More than Armies—The Story of Edward H. Cary, M.D. Dallas: Mathis, Van Nort and Company, 1948.

gaiety, and dignity to the meetings of the Southern Medical Association for thirty-eight years.

MONILIASIS AS A COMMON COMPLICATION OF BIOTIC THERAPY

More than a year ago, Harris[1] reported observations upon a group of ambulatory patients who had received aureomycin or chloramphenicol for chronic brucellosis, who developed severe lesions of the oral and other mucous membranes. Most of his patients had received 4 grams of the biotic daily for about ten days. A similar syndrome, he says, occurs not infrequently in patients who take penicillin orally. Confirmatory reports[2 3] have appeared describing the same clinical picture and attempting to explain its mechanism.

Mucous membrane involvement was very much more common in women, in Harris' experience, than in men. A fine, red, vesiculopapular eruption showed on the uvula in 48 to 72 hours after the beginning of therapy. Then the hard palate, pharynx, cheeks, lips and tongue became involved. The main subjective complaint was of sore throat. The oral symptoms sometimes persisted for several weeks. The appearance of the mucous membranes to him resembled that of a pronounced riboflavin deficiency.

The oral involvement was often accompanied by vaginal and anal irritation and fungous infection upon the skin. Monilia (Candida) albicans was isolated from all lesions. It will be recalled that this fungus is the causative agent of thrush; that it is also commonly found in the mouths and on the skin of normal persons. Half the individuals under treatment in Harris' series developed odorless stools in one to three days; odor usually returned when medication was stopped, though in an occasional patient the stools remained odorless nine months later. A few noticed an increased foul or sickeningly sweet odor. In some patients, diarrhea developed and persisted for several weeks or longer. Vaginal and anal irritation became worse as treatment continued. Hemorrhoids appeared in six patients, with fissuring of the skin of the perineum and vulva. When vitamin B complex was administered, the side effects developed less rapidly. Vaginal lesions from which Monilia albicans was isolated, subsided rapidly when the patient used vaginal suppositories containing cetyl pyridium chloride, and applied gentian violet externally.

Woods, Manning, and Patterson,[3] in Durham, North Carolina, report a similar series of 25 cases of moniliasis observed as sequels to biotic therapy. Regularly encountered, they say, was a condition of sore mouth, hairy tongue, perleche or the clinical picture of thrush, which had followed local use of penicillin or aureomycin as sprays, troches, soluble tablets or powders in the oropharynx. Monilia was cultured readily from these mouths. In a group with diarrhea the same organism was found growing abundantly in the stools, where it is rarely found in normal persons. In a severe case, exudative lesions in the oropharynx extended the entire length of the esophagus, presenting a severe case of monilial esophagitis. Two cases of bronchopulmonary moniliasis were observed.

The biotics *in vitro* did not stimulate the growth of Monilia or inhibit it in any degree. Failure of vitamin synthesis by the bacteria which had been eliminated from the alimentary tract, it was thought might have lowered host resistance, and thus permitted the overgrowth of Monilia. Or possibly merely in the competition for nutrition, as the field was plowed free of bacteria, the fungi covered it.

The same fungus, Candida albicans, (also known as Monilia albicans and Monilia psilosis[4]) was indicted more than a quarter century ago as the cause of tropical sprue and perhaps also of pernicious anemia. These two diseases Edward J. Wood[5] at that time believed to be identical: the diagnosis, he said, was mainly geographical; the clinical pictures of the two merged; and from the stools of both, Monilia, the probable causative agent, could be cultivated. This is mentioned because of the report of careful observers a generation ago that Monilia grew in the intestines in two diseases now recognized as dietary deficiencies and successfully so treated. Both have some of the symptoms described as following biotic therapy.

It has been shown that both sprue and per-

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nicious anemia respond promptly to high liver therapy; to liver concentrates; and to folic acid and vitamin B_{12}. Presumably after specific dietary therapy in these two diseases the fungus disappears from the alimentary tract or loses its pathogenicity. There is need for further investigation of the particular component or components of the B-complex which are most helpful in combatting moniliasis after biotic therapy.

The observations of Harris and the Durham group of course emphasize the potential ill effects of the biotics. The physician should always carefully investigate the patient's history to ascertain what drugs he has been taking. The biotics should not be prescribed by the physician or sold by the druggist in response to the patient's demand to be relieved of symptoms of a cold in the head; nor should therapy of chronic conditions with them be prolonged.

To gynecologists and others who encounter the very resistant monilial infections of the genital mucosa, this work will suggest that dietary therapy and perhaps parenteral administration of one or more factors of the B-complex may have very beneficial effects.

GONADAL HORMONES IN EXPERIMENTAL TUMORS

Considerable clinical interest has been shown in treating cancer of the prostate gland with estrogens, and of the female breast with androgens, and symptomatic improvement has been reported in some cases. Recent physiological studies throw a little more light upon the tumor stimulating or inhibiting activity of these hormones.

Workers[1] at the University of Minnesota Medical School have investigated the effects of an ovary-inhibiting plant upon the incidence of mammary tumors in mice. The mice used came from a strain which had a high incidence of spontaneous tumors. About two-thirds of the animals, if untreated, developed breast tumors by the age of thirteen to fourteen months. They were fed Lithospermum ruderale, a plant which induces a diestrous state by inhibiting the action or formation of gonadotropic hormone of the anterior pituitary and thus of the estrogens. Various concentrations of this plant were ground and added to the animals' ration, until most of them were in a continuous state of diestrous. Different strains of mice varied in their susceptibility to Lithospermum ruderale. Those which were kept in diestrous by it, weighed less and ate less than the controls. The incidence of mammary tumors in a tumor susceptible strain was markedly reduced by feeding this plant and keeping the animals in a diestrous state, presumably low in estrogens. This is like castrating the animals to reduce the incidence of mammary tumors.

Foley,[2] reports retardation of growth of a particular transmissible tumor of mice in both sexes, by androgen therapy. The tumor bearing material was implanted subcutaneously in the right axillary region of young adult animals. Methyl androstenediol or methyl testosterone was given orally. Only one strain of the inoculated tumors was inhibited. Subcutaneous injection was ineffective in inhibiting this tumor. Androgens apparently retarded the growth of an inoculated tumor, perhaps by decreasing anterior pituitary activity or secretion of gonadotropin.

If, as is believed, the gonadal hormones, the androgens and estrogens, act chiefly by their inhibitory effect upon the secretion of the anterior pituitary gland, then the gonadotropic hormones are intimately and specifically concerned in the progress of this type of malignancy. They may be concerned only in growth of tumors of the particular tissue which this hormone stimulates, namely: the gonadal and secondary sex tissues. Other endocrines specifically stimulate or depress growth of other tissues, and by this means ACTH for example may occasionally depress a particular type of growth. Or perhaps a material, such as a gonadal hormone which inhibits one phase of pituitary secretion, has some depressing effect upon other pituitary functions, and anterior pituitary activity in itself is the chief motivating force of malignant growth in all parts of the body.

1. Cranston, E. M.; Kucera, G. R.; and Bittner, J. J.: Lithospermum Ruderale and the Incidence of Mammary Tumors in Mice. Proc. Soc. Exper. Biol. and Med., **75**:79 (Dec.) 1950.

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TWENTY-FIVE YEARS AGO

From Journals of 1926

Golfers' Special Train.[1]—The Golfers' Special provided for physicians attending the San Francisco Session in 1923 struck a most responsive chord. It will no doubt

1. Association News. The Dallas Session. Golfers Rally for Trip to Southland Courses. J.A.M.A., **86**:696 (March 6) 1926.

be pleasing news to all those with the golfing urge to learn that a similar train is being provided for the journey to Dallas. This train will leave Chicago, Sunday, April 11, and will provide six days of golf at famous Southern clubs. The general plan is to travel by night and have the days free for golfing and sight-seeing. Wives and children of physicians are welcomed on this trip, and special entertainment in the way of automobile drives, sight-seeing journeys, surf bathing and oyster roasts will be provided. The train is run under the auspices of the Southern Pacific.

Preliminary Program of the Dallas Meeting of the American Medical Association.[2]—Tuesday, April 20, 8:30 p.m. * * * Call to order by the President, William D. Haggard, Nashville, Tenn. * * * Announcements. E. H. Cary, Chairman, Local Committee of Arrangements. Address of Welcome. Charles M. Rosser, President, State Medical Association of Texas. Address of Welcome. J. O. McReynolds, President, Dallas County Medical Society * * *

Section on Practice of Medicine * * * Modern Practical Tests of Renal Function. P. S. Hench, Rochester, Minn. * * *

Use of o-Iodoxy Benzoic Acid in the Treatment of Chronic Arthritis. A. G. Young and J. B. Youmans, Ann Arbor, Mich. * * *

Pernicious Anemia. Lewellys F. Barker, Baltimore, Md. * * *

Sterilization of Local and General Infections by Intravenous Injection of Mercurochrome-220 Soluble; Experimental and Clinical Evidence * * * Hugh H. Young, Baltimore, Md. * * *

Interrelation of Lesions of the Liver, the Bone Marrow, and the Spleen. William J. Mayo and Charles H. Mayo, Rochester, Minn. * * *

Cautery Treatment of Chronic Gonorrhea of the Cervix. Harold W. Shutter, Milwaukee * * *

Clinical Tests of the Ovarian Follicular Hormone. J. P. Pratt, Detroit, and Edgar Allen, Columbia, Mo. * * *

The Prostate as a Remote Focus of Infection in Ocular Inflammations. William Zentmayer, Philadelphia * * *

The Effect of Viewing Motion Pictures on Visual Acuity: Preliminary Report. A. Ray Irvine and M. F. Weymann, Los Angeles * * *

Paranasal Sinusitis as a Cause of So-called Alimentary Intoxication. P. C. Jeans and M. L. Floyd, Iowa City * * *

The Therapeutic Value of the Parathyroid Hormone. J. B. Collip, Edmundton, Alberta, Canada * * *

The Use of Colloidal Lead in the Treatment of Cancer. Francis Carter Wood, New York * * *

Grading of Carcinoma and Its Practical Application. Albert Broders, Rochester, Minn. * * *

An Efficient Treatment of Chancroidal Buboes: Injections of Menciere's Solution. H. G. Miskjian, Cleveland * * *

2. Dallas Session. Preliminary Program of the Scientific Assembly. J.A.M.A., **86**:784 (March 13) 1926.

Paranasal Cell Infection as a Cause of Infectious Arthritis. M. F. Arbuckle, St. Louis * * *

The Treatment of the Psychoneuroses by the Removal of Focal Infections, with Especial Reference to Colectomy and Cecocolectomy. E. C. Dudley, Chicago.

Kline Test.[3]—The microscopic slide precipitation test for syphilis with Kahn's antigen described in this report is as sensitive as the routine three-tube Kahn test and has the following advantages over that method: 1. It is simpler. 2. It requires less apparatus and much less serum. 3. The results are easier to read.

Paraffinoma.[4]—We have seven histories of paraffinomas * * * all * * * women * * * a woman * * * aged 43 began to get paraffin injections into the face the preceding May * * * there was a dark red, irregular * * * induration of the left cheek, with much edema of the left lower lid * * * After seven months of treatment * * * no improvement was noted * * * In the other case * * * the scars resulting from the paraffin injections underwent a curious fatty degeneration, giving a picture resembling pseudoxanthoma elasticum * * * She had had paraffin infiltrated into the cheeks five years previously * * * they had become inflamed * * * the deformity interfered with the opening of the mouth * * * The question of punishing persons who cause such suffering is a grave one.

3. Kline, B. S.; and Young, A. M.: A Microscopic Slide Precipitation Test for Syphilis. Preliminary Report. J.A.M.A., **86**:928 (March 27) 1926.

4. Montgomery, Douglass W.; and Culver, George D.: Paraffinomas. J.A.M.A., **86**:92, 1926.

Book Reviews

Physician to the World. The Life of General William Crawford Gorgas. By John M. Gibson, Director, Alabama State Health Department's Division of Public Health Education. 315 pages. Durham, North Carolina: Duke University Press, 1950. Price $4.50.

John M. Gibson, with a master's degree from Columbia University's School of Journalism, and now Director of Public Health Education in Alabama's Department of Health, is eminently qualified to write a biography of Major General William Crawford Gorgas. Under the title of "Physician to the World," he has published the life story of an humble man, an Alabamian, who did not practice medicine for the last twenty years of his life; but who devised methods for preventing malaria, yellow fever, typhoid, and other communicable diseases, the application of which has prevented more deaths in the last half century than lives have been saved by any ten thousand practitioners of medicine.

The author makes a romance of the conquest of yellow fever by an Army surgeon; and he relates the dramatic story of the sanitation of Cuba and the Panama Canal Zone in language that a high school student can understand. "Physician to the World" should be in every school and college library in America and should be required reading for senior high school students.

That Gorgas had enemies seems almost incomprehensible to those who knew the kind, gentle, humble Chief of Sanitation in Panama: yet Gibson's researches reveal that plans to destroy the man who made possible the construction of the Panama Canal were projected by men in powerful positions. The controversy between Major General George W. Goethals, Chief Engineer and Chairman of the Canal Commission, and the Chief of Sanitation was carried to the White House; and, fortunately for the world, it was decided in favor of Gorgas by President Theodore Roosevelt.

In "Physician to the World" every phase of the life of Gorgas has been faithfully portrayed, from his boyhood days in Richmond during the Civil War to his last illness in the Queen Alexandria Hospital in London in 1920 where he was knighted by King George V a few days before his death.

A number of excellent biographies of the immortal Gorgas have been written, which the author has utilized in the preparation of "Physician to the World"; and he has found new sources of material which he has incorporated in a biography that makes easy and interesting reading, and which is historically accurate.

Cancer of the Colon and Rectum. Its Diagnosis and Treatment. By Fred W. Rankin, B.A., M.A., M.D., LL.D., Sc.D., F.A.C.S., Surgeon, St. Joseph's and Good Samaritan Hospitals, Lexington, Kentucky, and Clinical Professor of Surgery, University of Louisville, Louisville, Kentucky; and A. Stephens Graham, M.D., M.S. (in Surgery), F.A.C.S., Surgeon, Stuart Circle Hospital, Richmond, Virginia, and Associate Professor of Surgery, Medical College of Virginia. Second Edition. 427 pages, illustrated. Springfield, Illinois: Charles C. Thomas, Publisher, 1950. Price $7.50.

The manifold changes which have occurred in the diagnosis and treatment of cancer of the colon and rectum during the eleven-year period since the first edition of this classic are clearly presented.

From a comprehensive review of all the important features relative to anatomy, physiology, etiology, pathology, and diagnosis, the volume logically passes to a thorough consideration of all phases of treatment, including choice of operation and a description of the various operative procedures and the pre- and postoperative care.

The reader will benefit greatly from the fine judgment which has developed from the authors' vast experience in this field. There is no other single book available today which affords such authoritative coverage of the subject. Every surgeon, and, indeed, every physician interested in this important subject, should own it.

Friend of the People. The Life of Dr. Peter Fayssoux of Charleston, South Carolina. By Chalmers G. Davidson. 151 pages. Columbia: The Medical Association of South Carolina, 1950. Price $2.75.

"Friend of the People" is more than a biography of Dr. Peter Fayssoux, "Father of Medicine in the state of South Carolina." It is an historically accurate review of events that brought South Carolina into the Revolutionary War; its role in the fight for independence, in which Dr. Fayssoux was Surgeon General and Chief Physician in the Southern Hospital; and the dilemma of Huguenot Charleston during and after the French Revolution. Dr. Peter Fayssoux, wealthy aristocrat, was the champion of the people and one of the leaders in the legislature, which enacted laws for the newly created independent state of South Carolina. He was one of the founders of the Charleston Medical Society in 1790 and served as its president for four years. A not unimportant contribution to "Friend of the People" and to the history of medicine as practiced in the latter part of the Eighteenth Century are excerpts from correspondence between Peter Fayssoux and Benjamin Rush, who spent three years (1766 to 1769) together as medical students in the University of Edinburgh and were friends for the rest of their lives. Any physician or lover of biography and history can spend a profitable and interesting evening reading the life story of this revolutionary patriot and outstanding "practitioner of physic."

Delayed Union in Fractures of the Long Bone. (This Jacksonian Prize Essay is published with the kind permission of the Council of the Royal College of Surgeons of England.) By Kenneth W. Starr, O.B.E., E.D., M.D., B.S. (Sid.), M.S. (Melb.), F.R.C.S. (Eng.), F.A.C.S., F.R.A.C.S., Surgeon, Sydney Hospital, New South Wales. 233 pages, with illustrations, some in color. St. Louis: The C. V. Mosby Company, 1947. Price $9.00.

The author of this essay is unquestionably a scholarly individual who is endowed with excellent use of the English language. Photomicrographs, roentgenographic illustrations, charts and graphs are beautifully prepared.

The first section is a review of the information available at the time of preparation of this manuscript with excellent bibliographical references. The structure and chemistry of bone and the cycles of bone reconstruction, as well as the relationship between structures and function of the bone morphology are very well described.

The second part deals with the anatomical structures and various processes of bone repair. Its preparation shows minute scrutiny and voluminous patience in its preparation. Any student or practitioner who is interested in bones or in the treatment of bones, would profit well by reading these two sections. Unfortunately, only 103 pages were devoted to these two sections.

The third part concerns the etiology and treatment of delayed union. The major portion of this work was prepared in 1944; and apparently the author had much more confidence in antibiotic and chemotherapeutic agents than most orthopedists have at this time. Certainly his approach to the problem is far more radical than most authorities would agree. The author's ideas are dangerous and should be read only by the advanced student in the treatment of fractures, preferably by those who have had considerable experience and cannot easily be lead astray. The readiness with which the closed fractures apparently have been opened as well as internal fixation introduced in septic wounds are at variance with the thought of most orthopedic traumatic surgeons in this country.

An Atlas of Amputations. By Donald B. Slocum, M.D., M.S., Orthopedic Surgeon, Sacred Heart General Hospital, Eugene, Oregon. 562 pages, with illustrations. St. Louis: The C. V. Mosby Company, 1949. Price $20.00.

Dr. Slocum has prepared a needed and informative work of atlas proportions on the subject of amputations, from a voluminous experience in the field about which he writes. The work is probably the most complete on this subject that has been prepared to date. Illustrations, photographs, as well as tables are generously supplied.

The author deals with the surgical considerations, such as wound healing and surgical care of the individual condition, surgical preparations, and anesthesia. He describes in detail the instruments which he considers necessary. Conspicuous by its absence, is the amputation shield which the author apparently does not like though this is frequently a considerable help where only a limited number of trained assistants is available. Anesthesia problems are considered.

Subsequently almost 200 pages are devoted to surgical technics alone. The author is explicit in his explanations of each procedure. The remaining portion is devoted to the convalescent period which in previous works has too often been ignored. The complications of the final amputation stump, the mechanics of normal amputee gait, as well as the prosthetic appliances, and physical medicine which can be utilized, are carefully reviewed in individual chapters.

Another chapter is devoted to physical rehabilitation in upper extremity amputees; and a final chapter to the relation of the amputee to sports.

In the second half, photographs have been extensively used to show how amputee cases with stumps of various lengths are able to negotiate common problems in life such as getting out of chairs, up off the floor, and walking up and down steps.

Dr. Slocum has had a tremendous and valuable experience as a result of his work during the past war at Walter Reed Hospital. A minor criticism may be voiced regarding the text. It is felt that there is insufficient discussion of the important problem of the juvenile amputee, and considerations of growth of various epiphyses has been dismissed in too few words.

Researches in Binocular Vision. By Kenneth N. Ogle, Ph.D., Section on Biophysics and Biophysical Research; Research Consultant in the Section on Ophthalmology, Mayo Foundation and Mayo Clinic, Rochester, Minnesota. 344 pages. W. B. Saunders Company, Philadelphia and London, 1950.

This is the authoritative source of the facts so far discovered in the rapidly expanding field of binocular vision. It is the summarization and integration of the significant parts of 18 years of intensive research by Ogle, Ames and their associates at the Dartmouth Eye Institute on problems in physiological optics and the application of the results of that research to clinical ophthalmology and to visual science in general.

The first part of the book considers the organization and sensory cooperation of the two retinas, presents the details of the structure of the visual pathway and describes the theory of corresponding retinal points, and the methods of studying the horopter.

The second section deals with the fusion processes in binocular single vision and many concepts, such, for example, as Panum's fusional areas, usually inadequately described, are thoroughly explained.

The third part deals with the problems in binocular vision when changes are made in the relative magnifications of the images of the two eyes, and the last section deals with the experimental and theoretical bases for aniseikonia.

This is a book which every resident and fellow in ophthalmology must have, which every orthoptic technician should study, and which the busy clinical ophthalmologist should refer to frequently.

The Neurologic Examination. Incorporating the Fundamentals of Neuroanatomy and Neurophysiology. By Russell N. DeJong, M.D., Professor of Neurology and Chairman of the Department of Neurology, University of Michigan Medical School. 1079 pages, with 368 illustrations. New York: Paul B. Hoeber, Inc., 1950. Price $15.00.

This book was meant to be read. It is surprising to find what is essentially a monograph of over 1,000 pages in which few words are wasted. The reader is immediately aware that the author has carefully weighed each sentence in the entire volume. This is one of the most complete treatises on the neurologic examination in the English language. Although its size and cost will bar its inclusion in the library of most general practitioners, generations of students and interns to come will have occasion to consult sections of this splendid work.

Thoracic Surgery. By Richard H. Sweet, M.D., Associate Clinical Professor of Surgery, Harvard University Medical School. Illustrations by Jorge Rodriguez Arroyo, M.D., Assistant in Surgical Therapeutics, University of Mexico Medical School. 345 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1950. Price $10.00.

Though some may disagree with the author's initial statement in his preface that "any properly qualified surgeon can acquire with relative ease a satisfactory proficiency in thoracic surgery by employing the technics herein described," none will disagree with the general excellence of Dr. Sweet's book. The book is well organized. It considers first the surgical anatomy of the thorax including the thoracic wall, mediastinum, pleura, lung and diaphragm. The anatomical description and accompanying excellent illustration are unusually good.

Following the anatomical description, the author has a chapter on general technical considerations including the placing of incisions for various types of operations. The actual operations encompassed by thoracic surgery are grouped into those upon the thoracic wall, those pertaining to the pleural cavity, the lung, the mediastinum, esophagus and a chapter on abdominal operations performed through thoracic incisions, and operations upon the diaphragm. The descriptions are easy to follow, and a pleasure to read.

The author does not go into a discussion of the

indications for thoracoplasty in tuberculosis, for example, or such controversial questions as the selection of thoracoplasty or resection, since such knowledge is not readily obtained from the printed page in any case. The book, therefore, cannot make thoracic surgeons, but for the general surgeons who wish to be technicians for those with sufficient knowledge and experience properly to select procedure and patient, the book should be very useful.

The Ethical Basis of Medical Practice. By Willard L. Sperry, Dean of the Harvard Divinity School. With a foreword by J. Howard Means, M.D. 185 pages. New York: Paul B. Hoeber, Inc., 1950. Price $2.50.

This searching interpretation of medical ethics represents the natural outgrowth of wide interest in addresses delivered to the faculty and students at the medical schools of Harvard and Michigan Universities.

Instead of a dogmatic enunciation of views, Dean Sperry clearly defines the basic moral problems which confront the physician in daily practice. As a result of this well considered clarification, the answers logically assert themselves.

Physician and student alike will benefit immeasurably from reading this fine book.

Principles and Practice of Surgery. By Jacob K. Berman, A.B., M.D., F.A.C.S., Indianapolis, Indiana, Associate Professor of Surgery, Indiana University School of Medicine. 1378 pages, with 429 illustrations. St. Louis: The C. V. Mosby Company, 1950. Price $15.00.

In this fine textbook of surgery, emphasis is logically placed upon the correlation of the basic sciences with the fundamental principles of surgery. A brief review of anatomy, physiology, and pathology precedes clinical considerations relative to each system of the body. Surgical disorders are very ably and comprehensively covered in this splendid, well written, modern surgical text.

Significance of the Body Fluids in Clinical Medicine. By L. H. Newburgh, M. D., Professor of Clinical Investigation, University of Michigan Medical School, Ann Arbor, Michigan. Assisted by Alexander Leaf, M.D., Instructor in Internal Medicine, University of Michigan Medical School, Ann Arbor, Michigan. 76 pages. Springfield, Illinois: Charles C. Thomas, Publisher, 1950. Price $2.00.

To provide adequate fluid and electrolyte therapy in the care of the seriously ill patient, the practicing physician and surgeon must keep abreast of the rapidly growing field of electrolyte-fluid metabolism. It is now a well accepted fact that sodium and potassium readily cross the cell membrane under specified conditions, realization of which has materially altered principles in parenteral fluid therapy. Dr. Newburgh's monograph provides a lucid discussion of the newer knowledge of intracellular and extracellular physiology, and its importance at the bedside. It is regrettable that limitation of space did not permit the author to mention specific recommendations and precautions in the use of the newer repair solutions, or reference to alterations in the electrocardiogram in potassium disturbances. The book is supplemented by a small but highly selected group of references. Anyone confronted with the problems of acute or chronic dehydration, edematous states, or acid-base balance derangement will find this book a welcome addition to his library.

An Atlas of Human Anatomy. By Barry J. Anson, Ph.D., Professor of Anatomy, Northwestern University Medical School. 518 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1950. Price $11.50.

This complete work on gross anatomy represents the successful culmination of a long-term project by Dr. Anson. It presents skillfully executed illustrations prepared from new dissections.

Admirable grouping of the pictorial content and accompanying explanatory text by regions rather than by systems is afforded.

This atlas will undoubtedly serve not only as a standard for anatomical dissection by medical students, but equally well as a reference work for the practicing physician or surgeon.

The Actinomycetes, Their Nature, Occurrence, Activities, and Importance (Annales Cryptogamici et Phytopathologici). By Selman A. Waksman, Ph.D., Professor of Microbiology, Rutgers University; Microbiologist, New Jersey Agricultural Experiment Station. Edited by Frans Verdoorn, Ph.D., Managing Editor, Chronica Botanica. 230 pages, illustrated. Waltham, Massachusetts: The Chronica Botanica Co.; New York: Stechert-Hafner, Inc., 1950. Price $5.00.

This monograph written by the man who developed streptomycin, presents essentially all of the available data concerning that interesting group of unicellular organisms, the actinomycetes. The author ably and authoritatively leads his reader through the maze of terminology, morphology, metabolism and nutrition, enzyme and antibiotic production, as well as the more important plant, animal and human diseases caused by these organisms.

This modern account of the actinomycetes is rightfully of more interest to the mycologist, for whom it was written, than to the medical student and clinician. These latter would, however, be particularly interested in Chapters VII and XI. Chapter VII deals with actinomycetic production of the numerous antibiotics used daily in the practice of medicine. Chapter XI outlines the disease of animal and man caused by the actinomycetes and serves as a rapid review of these disorders. To the mycologist, the monograph represents, probably, the only available up-to-date account of the biology of these widespread organisms.

The format of the material is good, but the small size of the print is not conducive to easy reading. The thirty-four plates included in the text are in general, good. The inclusion of plate material from other authors detracts somewhat from the general credence in the author's experience and ability.

Eyes and Industry. By Hedwig S. Kuhn, M.D., Industrial Ophthalmologist, Hammond, Indiana. 378 pages with 151 illustrations including 3 color plates. St. Louis: The C. V. Mosby Company, 1950. Price $8.50.

The author is one of America's foremost industrial ophthalmologists and she presents in this book the summation of her knowledge in this field after many years of work. It reflects her enthusiastic approach and will furnish ophthalmologists with the necessary information for advising industry upon methods of creating a visual program. The three main objectives that the testing procedures have for industry are: (1) selecting adequate pre-employment tests, (2) providing periodic rechecks of special groups, and (3) conducting a practical visual survey of the plant.

The first third of the book describes the methods of testing vision and visual skills, the setting up of visual standards and corrective programs to bring those with low visual skills up to standard if possible.

The second part is a chapter by Dr. Albert C. Schnell which is somewhat in outline form, describing the management of industrial eye injuries caused by solid bodies. This is very good, but there is a scarcity of references.

Methods to avoid the effects of radiation, to render emergency care for chemical burns, and to protect the eye from strong illumination complete the latter third of the book. There is an extensive and valuable appendix with industrial ophthalmologic information arranged in tabular form.

The Modern Treatment of Asthma. With Special Reference to Gold Therapy. By L. Banszky, M.D. (Berlin), L.M.S.S.A. (Lond.). 135 pages. Baltimore: The Williams and Wilkins Company, 1950. Price $2.50.

This little book of 125 pages can be read through easily, in three hours. It is dedicated to the theme that in a certain number of asthmatics the condition is a manifestation of tuberculosis infection, and that in a certain per cent of these, treatment with gold salts is helpful if not curative.

The author gives explicit instructions for choosing the right type of patients and cautions that the treatment is effective only in properly selected cases. Instructions as to dosage and intervals is given and very properly, instructions are given for treatment of poisoning with gold by use of BAL (British anti-lewisite).

The author pays slighting tribute to the modern allergic management of asthma. He recommends the treatment for a very restricted type of cases but judging by numbers of cases quoted it is doubtful that he himself limits the treatment so strictly.

Judging from opinions of American physicians as a whole or allergists in particular, if the treatment is limited strictly to those cases of proven tuberculous origin there will be very few cases to which it is applicable.

One hundred and sixty-two references are cited almost entirely to European and British authors in European or British publications.

Southern Medical News

ALABAMA

The St. Lucie Children's Health Council was formed recently in Birmingham by representatives of 13 civic and fraternal organizations. The Council is to provide medical services for children in the community whose parents cannot provide it. Two members of the medical profession will be asked to act as directors of the organization.

Dr. Alston Callahan, Birmingham, has been appointed a member of the American Orthoptic Council, representing the American College of Surgeons.

ARKANSAS

Dr. Paul A. Mahoney, Little Rock, has been elected a regional member of the Board of Directors of the American Otorhinological Society for Plastic Surgery.

Dr. J. B. Terry, formerly of Helena, has moved to West Memphis.

Dr. L. J. Kosminsky, Texarkana, and Dr. G. D. Murphy, Jr., El Dorado, have been appointed members of the National Child Welfare Committee of the American Legion.

Dr. Max F. McAllister, Fayetteville, has been elected Vice-President for Arkansas of the Frisco System Medical Association.

Two Army Medical Officers have been appointed to the teaching staff of the School of Medicine of the University of Arkansas. They are Colonel Charles T. Young, assistant professor of medicine, and Colonel William W. Nichol, associate professor of surgery.

DISTRICT OF COLUMBIA

Rear Admiral Joel T. Boone, most decorated medical officer in the history of the Navy, retired recently after 36 years of service.

George Washington University Hospital's Department of Physical Medicine and Rehabilitation has received a $30,000 donation from Bernard Baruch, who made the donation in memory of Rear Admiral Cary T. Grayson and Major General Edwin Watson.

The George Washington University Medical Society held its twenty-fifth Annual Banquet and Alumni Reunion in Washington last month.

Dr. John A. Reed, Assistant Clinical Professor of Medicine at George Washington University, has been appointed a member of a new National Advisory Arthritis and Metabolic Diseases Council, created by the U. S. Public Health Services under a special act of Congress.

The Washington Heart Association recently issued invitations to the cardiovascular clinics of Washington, through its Cardiovascular Clinics Committee, to apply for a Certificate of Approval from the American Heart Association.

The Metropolitan Washington Tuberculosis Conference has elected Dr. John W. Trenis, Washington, President for 1951; Dr. R. G. Beachley, Health Officer of Arlington County, and Dr. H. F. Kilander, Office of Education, Federal Security Agency, Vice-Presidents; and Miss Rebecca Sweeney, Washington, Secretary. Dr. Vernon M. Padgett, Washington, is an ex-officio member of the Executive Committee.

The American Surgical Association will meet in Washington April 11-13, under the leadership of its President, Dr. Samuel C. Harvey, New Haven, Connecticut.

Colonel Harold I. Amory, Chief of the X-ray Service, Walter Reed Army Hospital, Washington, has been named chief of the new Radiological Consultants Division in the Office of the Surgeon General, by Major General R. W. Bliss, Washington, the Surgeon General.

Colonel Warner F. Bowers, Chief Surgical Consultant, the Surgeon General's Office, Washington, has been elected to the Board of Governors of the American College of Surgeons to succeed Major General Raymond W. Bliss, whose term has expired.

Vice Admiral Joel Thompson Boone, Medical Corps, U. S. Navy, retired, has accepted an appointment as Chief Medical Director of the Veterans Administration, to succeed Dr. Paul B. Magnuson who has resigned. Vice Admiral Boone will take over the office April 1.

George Washington University has received a $17,671 grant from the Alexander and Margaret Stewart Fund for research in arterial injection of nitrogen mustard to control cancer. Dr. Jeanne Bateman will conduct the research at the University Cancer Clinic.

FLORIDA

Dr. Herbert E. White and Miss Agnes Sawby, both of St. Augustine, were married recently at the home of her sister in Maple Creek, Saskatchewan, Canada. He is the President of the Florida Medical Association.

Dr. Ralph S. Sappenfield, Miami, was elected director of the American Society of Anesthesiologists at their meeting in Houston recently.

Dr. William C. Williams, Jr., has moved his office from West Palm Beach to Delray Beach.

Dr. Everett M. Harrison, Clearwater, has returned to his practice following postgraduate work at the Cook County Graduate School of Medicine, Chicago.

Dr. George F. Schmitt, Miami, has returned to his practice following clinical observations of medical facilities in San Antonio, Fort Worth, Dallas, Oklahoma City, Chicago and Minneapolis. He also attended a reunion of the Ex-Mayo Fellows.

Dr. Frank M. Hall, Gainesville, was recently elected Vice-President of the health officers section at a meeting of the American Public Health Association in St. Louis.

The Florida State Pediatric Association has elected Dr. Edgar E. Hitchcock, Orlando, President, and Dr. Charlotte C. Maguire, Secretary-Treasurer.

Dr. M. Jay Flipse, Miami, was elected President of the American College of Chest Physicians, Southern Chapter, at a recent meeting in St. Louis.

The University of Tampa has been presented a bust of Dr. Carlos Finlay by the Cuban Government, in commemoration of past alliances between Cuba and the United States and to symbolize future mutual advancement of cultural and trade relations between the two countries.

The Florida State Board of Health has prepared a budget of $3,532,174, an increase of more than $1,000,000 over last year, to operate the state's public health program. The budget will be considered by the legislature in the spring.

GEORGIA

New model clinical pathology laboratories were opened in Atlanta recently, and are being operated under the auspices of Grady Hospital, Emory University, and the Communicable Disease Center, U. S. Public Health Service. Objectives of the laboratories are (1) to develop, through research, more reliable methods of testing, and (2) to train laboratory personnel. The first project will be a study of methods for estimating the hemoglobin in the blood.

Dr. Sidney Olansky, Director of the Venereal Disease Research Laboratory at Chamblee, has accepted a commission as Senior Surgeon in the Regular Corps of the U. S. Public Health Service.

Dr. W. W. Brown, Athens, Commissioner of Health in Clarke County, has been commissioned as Local Registrar for Georgia Militia District No. 220, of the State Vital Statistics Registrar.

Dr. Rolla Eugene Dyer, Atlanta, has been awarded the Sedgwick Memorial Medal for 1950 for "distinguished service in public health." He is Director of Research at the Robert Winsap Clinic, Emory University School of Medicine.

Commander Monroe J. Epting, Savannah physician, now on active duty with the U. S. Navy, has been transferred from Parris Island, South Carolina, to the U. S. Naval Hospital, Jacksonville, Florida.

Dr. Lee Howard, Jr., Savannah, has passed the qualifying examinations as a diplomat of the American Board of Pathologists.

Dr. James A. Johnson, Jr., Manchester, and Dr. G. Lombard Kelly, Augusta, President of the Medical College of Georgia, were elected members of the Executive Board for the Better Health Conference, held in Atlanta in connection with the seventh Georgia Citizens Conference.

Dr. Kathleen Wickman, Atlanta, has replaced Dr. Elisabeth Martin in her office in Atlanta, while Dr. Martin takes two years training in obstetrics and gynecology at Gallinger Municipal Hospital, Washington, D. C. Dr. Martin will return to private practice in 1953.

Dr. Joseph C. Massee, Atlanta, has been re-elected Chairman of the Health Division on the Community Planning Council, and Dr. Walter W. Daniel, Atlanta, has been named co-chairman.

Dr. Harry B. Nunnally, Monroe, recently completed postgraduate work at the Tulane University of Louisiana School of Medicine in New Orleans.

Dr. H. Wilder Smith, Swainsboro, on active duty with the Army, has been transferred from Camp Stewart to Camp Gordon.

Dr. V. P. Sydenstricker, Augusta, has recently returned from a tour of Scotland, England, Wales and Ireland, where he observed socialized medicine in practice.

Dr. George Arthur Geist, formerly of St. Paul, Minnesota, has announced the opening of his offices in Atlanta, practice limited to general surgery and surgical consultation.

Dr. Cleveland Thompson, formerly of Millen, has announced the moving of his offices to Waynesboro, practice limited to general surgery.

Dr. John G. Hood, manager of the Veterans Administration office at Chamblee, has been appointed manager of the Veterans Administration Hospital at Richmond, Virginia.

KENTUCKY

Dr. Elmer L. Henderson, Louisville, President of the American Medical Association and of the World Medical Association and Past President of the Southern Medical Association, has been named by Kiwanis International as one of fourteen outstanding Americans, the only physician in the group, who have come up the hard way. These fourteen will be featured in a transcription program "The American Dream Come True."

Dr. B. B. Baughman, Frankfort, has been elected President of Kentucky Physicians Mutual, Inc., by the Board of Trustees at an annual meeting held recently. Dr. Baughman, who was formerly Vice-President, succeeds Dr. Oscar O. Miller, Louisville, to the presidency. Other officers elected were: Dr. E. C. Yates, Lexington, Vice-President; Dr. Bruce Underwood, Louisville, Secretary-Treasurer; Mr. D. Lane Tynes, Executive Director; and Mr. Raymond F. Dixon, Assistant Secretary-Treasurer.

The First Annual County Society Officers Conference, sponsored by the State Association, was held March 1 at the Brown Hotel in Louisville. Dr. Sam A. Overstreet, Louisville, President of the State Association, and Dr. Elmer L. Henderson, Louisville, President of the American Medical Association, took part in the program.

Dr. Ben C. Stigall, formerly of Oklahoma City, has opened an office in Livermore, McLean County, for the general practice of medicine.

A virus research laboratory has been established at the University of Louisville School of Medicine. The Laboratory, which was established by the Kentucky Child Health Foundation, will concentrate on childhood infections, and investigations will be supervised by Dr. Alex J. Steigman and James G. Shaffer of the school's Child Health and Bacteriology Department.

Dr. Charles C. Rutledge, formerly of Richmond, has opened offices in Pikeville for the practice of general surgery.

Dr. Lawrence Emberton, Tompkinsville, has opened an office in Edmonton for the practice of medicine.

Dr. W. Landon Smith, Frankfort, has associated with Dr. Walter Lee O'nan at Henderson, in the practice of general medicine.

Dr. V. A. Jackson, Clinton, has completed a twelve room air-conditioned clinic which includes x-ray equipment and an emergency operating room.

Col. Paul M. Crawford, formerly Chief Surgeon of Fort Knox, has been appointed Director of Tuberculosis Control for the Kentucky State Department of Health.

A Pediatrics Postgraduate Seminar which was started in February at the Good Samaritan and St. Joseph Hospitals, Lexington, will be continued through March. The seminar is presented by the Kentucky Child Health Foundation under the Auspices of the University of Louisville School of Medicine.

LOUISIANA

Dr. Woodard D. Beacham, New Orleans, was elected Assistant Secretary of the Central Association of Obstetricians and Gynecologists at their recent meeting in Milwaukee, Wisconsin.

Dr. William R. Sorum, Dr. Andre A. Charles L. Touzet, Dr. Frederick R. Hine and Dr. George W. Burke, all of New Orleans, have each received a $3,000 grant from the Farnsworth Fellowships in Psychiatry. The four physicians are the first to receive the fellowships which were set up last year by R. P. Farnsworth and Company to bolster the staffs of Louisiana Mental Hospitals. The program is sponsored by the Louisiana Society for Mental Health.

MARYLAND

Dr. J. Morris Reese, Baltimore, has been appointed a member of the Council of the Southern Medical Association from Maryland for a regular Council term of five years, beginning at the close of the annual meeting in Dallas, Texas, in November, the appointment having been announced recently by the President-Elect, Dr. R. J. Wilkinson, Huntington, West Virginia. Dr. Reese succeeds Dr. F. A. Holden, Baltimore, whose term will expire with the close of the Dallas meeting in November, and who having served the constitutional limit is not eligible for reappointment.

Dr. Bacon F. Chow, Ph.D., Johns Hopkins University School of Public Health and Hygiene, Baltimore, has received a grant of $5,000 from the National Vitamin Foundation for the study of vitamin B_{12} as a growth factor in man.

The annual meeting of the Medical and Chirurgical Faculty of the State of Maryland will be held April 24-25 in Baltimore.

The Baltimore City Medical Society has elected Dr. Louis A. M. Krause, President; Dr. Alan M. Chesney, Vice-President; Dr. Lewis P. Gundry, Secretary; and Dr. J. Albert Edwards, Treasurer.

MISSISSIPPI

Dr. Lamar Arrington, Meridian, who recently purchased the Lewis Hospital there, has changed the name to Arrington Hospital.

Dr. J. H. Green, Tupelo, was awarded a fifty-year certificate

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SOUTHERN MEDICAL ASSOCIATION

Minutes* of Forty-Fourth Annual Meeting

St. Louis, Missouri, November 13-16, 1950

GENERAL CLINICAL SESSIONS

General Clinical Sessions were held at the Kiel Municipal Auditorium, Opera House, St. Louis, Monday and Tuesday, forenoons and afternoons.

Monday, November 13, 9:30 a.m.

Dr. Curtice Rosser, President-Elect, Dallas, Texas, presiding.

"Cancer of the Uterus" (Lantern Slides), Dr. Axel N. Arneson, Associate Professor of Clinical Radiology and Clinical Obstetrics and Gynecology, Washington University School of Medicine, St. Louis, Missouri.

"The Problems of the Prostate Gland" (Lantern Slides), Dr. Grayson Carroll, Associate Clinical Professor of Urology, St. Louis University School of Medicine, St. Louis, Missouri.

"Sterility" (Lantern Slides), Dr. Wm. F. Mengert, Professor of Obstetrics and Gynecology, Southwestern Medical School of the University of Texas, Dallas, Texas.

Dr. R. L. Sanders, Memphis, Tennessee, presiding.

"A Postoperative Physiological and Clinical Study of 134 Vagotomized Patients" (Lantern Slides), Dr. Waltman Walters, Professor of Surgery, Mayo Foundation, University of Minnesota Graduate School, Rochester, Minnesota.

"Surgery in Portal Hypertension" (Lantern Slides), Dr. L. V. Mulligan, Assistant Professor of Clinical Surgery, St. Louis University School of Medicine, St. Louis, Missouri.

Questions and Answers.

Monday, November 13, 1:30 p.m.

Dr. M. Pinson Neal, Columbia, Missouri, presiding.

"Psychosomatic Medicine," Dr. George Saslow, Associate Professor of Psychiatry, Washington University School of Medicine, St. Louis, Missouri.

"Metabolic and Nutritional Studies in the Adolescent" (Lantern Slides), Dr. Joseph A. Johnston, Pediatrician-in-Chief, Henry Ford Hospital, Detroit, Michigan.

"An Appraisal of Cortisone and ACTH Therapeutic Agents" (Lantern Slides), Dr. Tom D. Spies, Director, Nutrition Clinic, Hillman Hospital, Birmingham, Alabama; and Professor and Head of the Department of Nutrition and Metabolism, Northwestern University Medical School, Chicago, Illinois.

Dr. Robert A. Moore, St. Louis, Missouri, presiding.

"Developments in Antibiotic Therapy," Dr. W. Barry Wood, Jr., Busch Professor of Medicine, Washington University School of Medicine, St. Louis, Missouri.

"Pneumonia" (Lantern Slides), Dr. Ralph A. Kinsella, Professor of Internal Medicine, St. Louis University School of Medicine, St. Louis, Missouri.

"Newer Concepts in the Treatment of Pulmonary Tuberculosis," Dr. Herbert L. Mantz, Kansas City, Missouri.

"Viral Diseases," Dr. Russell J. Blattner, Professor of Pediatrics, Baylor University College of Medicine, Houston, Texas.

Questions and Answers.

Tuesday, November 14, 9:00 a.m.

Dr. E. Sterling Nichol, Miami, Florida, presiding.

"Congenital Malformations of the Heart Amenable to Surgery, with Special Emphasis of Isolated Valvular Pulmonary Stenosis with Closed or Patient Foramen Ovale" (Lantern Slides), Dr. John Frank Dammann, Jr., Cardiac Clinic, Harriet Lane Home, Johns Hopkins Hospital, Baltimore, Maryland.

"Surgical Treatment of Congenital Cardiovascular Disease" (Lantern Slides), Dr. C. Rollins Hanlon, Professor of Surgery, St. Louis University School of Medicine, St. Louis, Missouri.

"The Treatment of Coronary Heart Disease," Dr. Tinsley R. Harrison, Professor of Medicine, Medical College of Alabama, Birmingham, Alabama.

Dr. Oscar B. Hunter, Washington, D. C., presiding.

"The Diagnostic Value of Bone Marrow Biopsy" (Lantern Slides), Dr. Goronwy O. Broun, Professor of Internal Medicine, St. Louis University School of Medicine, St. Louis, Missouri.

"Radioactive Isotopes" (Lantern Slides), Dr. Edward H. Reinhard, Associate Professor of Medicine and Radiology, Washington University School of Medicine, St. Louis, Missouri.

Questions and Answers.

Dr. Hamilton W. McKay, President, Southern Medical Association, Charlotte, North Carolina, delivered his President's Address, "Weighed in the Balance."

Tuesday, November 14, 1:30 p.m.

Dr. Donald W. Smith, Miami, Florida, presiding.

"Ocular Lesions in Certain Congenital and Hereditary Syndromes' (Lantern Slides and Motion Pictures), Dr. Banks Anderson, Professor of Ophthalmology, Duke University School of Medicine, Durham, North Carolina.

"Preliminary Report on the Use of Transfusion in the Management of Closed Head Injury" (Lantern Slides), Dr. Edmund A. Smolik, Associate Professor of Neurosurgery, St. Louis University School of Medicine, and Dr. Francis P. Nash, St. Louis, Missouri.

"The Diagnosis and Treatment of Early Malignant Disease of the Larynx" (Motion Pictures), Dr. Edwin N. Broyles, Associate Professor of Otolaryngology, Johns Hopkins University School of Medicine, Baltimore, Maryland.

Dr. Melvin A. Casberg, St. Louis, Missouri, presiding.

"A Consideration of Some Factors Possibly Responsible for the Great Increase in Bronchiogenic Carcinoma" (Lantern Slides), Dr. Evarts A. Graham, Bixby Professor of Surgery, Washington University School of Medicine, St. Louis, Missouri.

"Roentgen Diagnosis of Neoplastic Diseases of the Lungs" (Lantern Slides), Dr. Leroy Sante, Professor of Radiology, St. Louis University School of Medicine, St. Louis, Missouri.

"Afferent Innervation of Peripheral Blood Vessels Through Sympathetic Trunks—Its Clinical Implications" (Lantern Slides), Dr. Albert Kuntz, Professor of Anatomy, St. Louis University School of Medicine, St. Louis, Missouri.

"Nutrition of Surgical Patients" (Lantern Slides), Dr. Robert Elman, Professor of Clinical Surgery, Washington University School of Medicine, St. Louis, Missouri.

Questions and Answers.

General Clinical Sessions then adjourned.

SECTION ON GENERAL PRACTICE

Officers

Chairman—Dr. David G. Miller, Jr., Morgantown, Kentucky.
Vice-Chairman—Dr. Owen H. Williams, Savannah, Tennessee.
Secretary—Dr. W. H. Anderson, Booneville, Mississippi.

Wednesday, November 15, 2:00 p.m.

The Section met in the Kiel Municipal Auditorium, Assembly Room 2, St. Louis, and was called to order by the Chairman, Dr. David G. Miller, Jr., Morgantown, Kentucky, who presided.

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*Here are the Minutes of the General Clinical Sessions, of all the Sections, of the conjoint meetings and of the Woman's Auxiliary. In the February issue were Minutes of the General Sessions, Entertainment, Women Physicians, Scientific Awards, Golf Tournament, Registration, Scientific and Technical Exhibits, Motion Pictures and Roster of Officers for 1950-1951. In a subsequent issue will appear the Report of the Council, incorporating reports of the Executive Committee, Trustees, Secretary-Manager, Auditor, etc.

Dr. Albert Weinstein, Associate Professor of Clinical Medicine, Vanderbilt University School of Medicine, Nashville, Tennessee, read a paper entitled "Medical Treatment of Peptic Ulcer" (Lantern Slides).

Dr. Ralph M. Larsen, Associate Professor of Surgery, Vanderbilt University School of Medicine, Nashville, Tennessee, read a paper entitled "Surgical Treatment of Peptic Ulcer."

Papers of Dr. Weinstein and Dr. Larsen were discussed by Dr. Robert C. McElvain, St. Louis, Missouri; Dr. David G. Miller, Jr., Morgantown, Kentucky; and in closing by Dr. Larsen.

The Chairman appointed the following Nominating Committee: Dr. Lowry H. McDaniel, Chairman, Tyronza, Arkansas; and Dr. John R. Bender, Winston-Salem, North Carolina.

Dr. Herbert L. Clay, Associate Professor of Medicine, University of Louisville School of Medicine, Louisville, Kentucky, read a paper entitled "Digitalis in Heart Disease."

Dr. George E. Burch, Henderson Professor of Medicine, Tulane University School of Medicine, New Orleans, Louisiana, presented the subject, "Mercurial Diuretics in Heart Disease" (Lantern Slides).

Papers of Dr. Clay and Dr. Burch were discussed by Dr. Michael R. Cronen, Louisville, Kentucky; Dr. Edward Massie, St. Louis, Missouri; and in closing by Dr. Clay and Dr. Burch.

Dr. Richard W. Blumberg, Atlanta, Georgia, read a paper entitled "The Management of Whooping Cough," which was discussed by Dr. Albert Rauber, Atlanta, Georgia; Dr. Robert S. McCeney, Laurel, Maryland; Dr. Robert L. Andrae, Louisiana, Missouri; and in closing by the essayist.

The Section adjourned until 2:00 p.m. Thursday.

Thursday, November 16, 2:00 p.m.

The Section met in the Kiel Municipal Auditorium, Assembly Room 2, St. Louis, and was called to order by the Chairman, Dr. Miller, who presided.

Dr. Deane D. Wallace, University of Arkansas School of Medicine, Clinical Assistant Professor of Obstetrics and Gynecology, Little Rock, Arkansas, read a paper entitled "Treatment and Diagnosis of Endometriosis" (Lantern Slides), which was discussed by Dr. James Barker, Little Rock, Arkansas; Dr. Phillip C. Schreier, Memphis, Tennessee; and in closing by the essayist.

Dr. Lee F. Turlington, Associate Clinical Professor of Gynecology, Medical College of Alabama, Birmingham, Alabama, read a paper entitled "The Office Diagnosis and Treatment of Functional Uterine Bleeding."

Dr. David G. Miller, Jr., Morgantown, Kentucky, read his Chairman's Address entitled "Writing, A Renewed Obligation for the General Practitioner."

Dr. Richard H. Overholt, Clinical Professor of Surgery, Tufts College Medical School, Boston, Massachusetts, read a paper entitled "The Most Detectable Internal Cancer" (Lantern Slides), which was discussed by Dr. David H. Waterman, Knoxville, Tennessee.

Dr. J. Albert Key, Professor of Clinical Orthopedic Surgery, Washington University School of Medicine, St. Louis, Missouri, read a paper entitled "The General Practitioner and Fractures of the Lower Extremities," which was discussed by Dr. Charles R. Rountree, Oklahoma City, Oklahoma.

Dr. Calvin W. Woodruff, Instructor in Pediatrics, Vanderbilt University School of Medicine and Research Fellow of National Institute of Health, U. S. Public Health Service, Nashville, Tennessee, read a paper entitled "Nutrition in Relation to the Soil" (Lantern Slides).

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section.

Chairman—Dr. W. H. Anderson, Booneville, Mississippi.
Vice-Chairman—Dr. J. O. S. Holt, Jr., Dallas, Texas.
Secretary—Dr. Fount Richardson, Fayetteville, Arkansas.

The Section then adjourned *sine die*.

SECTION ON MEDICINE

Officers

Chairman—Dr. Alphonse McMahon, St. Louis, Missouri.
Vice-Chairman—Dr. Carter Smith, Atlanta, Georgia.
Secretary—Dr. Harold M. Horack, New Orleans, Louisiana.

Wednesday, November 15, 2:00 p.m.

The Section met in the Kiel Municipal Auditorium, Assembly Room 1, St. Louis, and was called to order by the Chairman, Dr. Alphonse McMahon, who read his Chairman's Address, entitled "Hypercholesterolemia: Its Significance in Clinical Practice," Dr. Hollis N. Allen, Dr. W. C. Missey, Jr., and Dr. Clarence J. Weber, St. Louis, Missouri, collaborating.

The Chairman appointed the following Nominating Committee: Dr. George T. Harrell, Jr., Chairman, Winston-Salem, North Carolina; Dr. Arthur J. Schwertman, Covington, Kentucky; and Dr. E. Sterling Nichol, Miami, Florida.

Paper by Dr. J. Harold St. John, Jr., and Dr. W. M. Nicholson, Department of Medicine, Duke University School of Medicine, Durham, North Carolina, entitled "An Evaluation of the Treatment of Thyroiditis," was read by Dr. St. John, Jr., and was discussed by Dr. Daniel L. Sexton, St. Louis, Missouri.

Dr. Max Michael, Jr., Assistant Professor of Medicine, Emory University School of Medicine, and Chief, Medical Service, Lawson Veterans Administration Hospital, Atlanta, Georgia, read a paper entitled "Effect of Cortisone on Various Bacterial Infections" (Lantern Slides).

Dr. Jerry K. Aikawa, Bowman Gray School of Medicine, Winston-Salem, North Carolina, read a paper entitled "Radiosodium Space in Human Disease" (Lantern Slides), which was discussed by Dr. George T. Harrell, Winston-Salem, North Carolina; and in closing by the essayist.

Dr. William R. Arrowsmith, Assistant Professor of Clinical Medicine, Tulane University School of Medicine, New Orleans, Louisiana, read a paper entitled "Obscure Bleeding as a Cause of Persistent Anemia" (Lantern Slides), which was discussed by Dr. Edward H. Reinhard, St. Louis, Missouri.

Paper by Dr. Richard D. Haines, Dr. William N. Powell and Dr. Herbert Bailey, Temple, Texas, entitled "Multiple Myeloma: A Critical Survey of Thirty-Three Patients with Emphasis on Recent Therapeutic Agents" (Lantern Slides), was read by Dr. Haines, and was discussed by Dr. William R. Arrowsmith, New Orleans, Louisiana.

The Section then adjourned until 2:00 p.m. Thursday.

Thursday, November 16, 2:00 p.m.

The Section met in the Kiel Municipal Auditorium, Assembly Room 1, St. Louis, and was called to order by the Chairman, Dr. McMahon, who presided.

Dr. Euclid M. Smith, Associate Professor of Medicine, Chief of Rheumatology Service, University of Arkansas School of Medicine (Little Rock), Hot Springs, Arkansas, read a paper entitled "Chronic Rheumatoid Arthritis" (Lantern Slides), which was discussed by Dr. Benjamin B. Wells, Little Rock, Arkansas; and Dr. Paul O. Hagemann, St. Louis, Missouri.

Paper by Dr. Bernard D. Ross, Medical Research Unit, University of Miami, and Gertrud Ernst, Miami, Florida, entitled "The Neuro-hepatic Syndrome: Its Clinical Features and Treatment: A Common Fatigue State Simulating Psychoneurosis" (Lantern Slides), was read by Dr. Ross, and was discussed by Dr. Donald F. Marion, Miami, Florida; Dr. Vince Moseley, Charleston, South Carolina; and in closing by the essayist.

Paper by Dr. Peter C. Gazes and Dr. Robert P. Walton, Department of Pharmacology, Medical College of the State of South Carolina, Charleston, South Carolina, entitled "The Effect of Digitalis and Other Drugs on Heart Contractile Force: Clinical Implications" (Lantern Slides and Motion Pictures), was read by Dr. Gazes, and was discussed by Dr. Donald E. Gregg, Washington, D. C.; Dr. Arthur S. Gilson, St. Louis, Missouri; and in closing by Dr. Gazes.

Dr. J. Willis Hurst, Instructor in Medicine, Emory University School of Medicine, Emory University, Georgia, read a paper entitled "A Simplified and Practical Vectorial Method of Electrocardiographic Interpretation" (Lantern Slides), which was discussed by Dr. Joseph C. Edwards, St. Louis, Missouri; and in closing by the essayist.

Paper by Dr. Manson Meads, Dr. Victor H. Knight and Dr. H. LeRoy Izler, Department of Medicine, Bowman Gray School of Medicine, Winston-Salem, North Carolina, entitled "The Enhancement of Serum Penicillin Levels in Man by Benemid" (Lantern Slides), was read by Dr. Meads, and was discussed by Dr. William P. Boger, Philadelphia, Pennsylvania; Dr. W. E. Cornatzer, Winston-Salem, North Carolina; Dr. O. P. J. Falk, St. Louis, Missouri; and Dr. Bernard D. Ross, Miami, Florida.

Paper by Dr. Joseph C. Edwards, Dr. Emily E. Mueller, Dr. Masao Ohmoto, Dr. Gus J. Furla and Dr. Sedgwick Mead. Department of Internal Medicine, Divisions of Gerontology and

Physical Medicine, Washington University School of Medicine, and the City Infirmary Hospital, St. Louis, Missouri, entitled "Newer Drug Therapy of Parkinson's Disease" (Lantern Slides), was read by Dr. Edwards, and was discussed by Dr. Louis H. Kohler, St. Louis, Missouri; Dr. James L. O'Leary, St. Louis, Missouri; Dr. Leonard T. Furlow, St. Louis, Missouri; and in closing by Dr. Edwards.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. Harold M. Horack, New Orleans, Louisiana.
Vice-Chairman—Dr. Tom D. Spies, Birmingham, Alabama.
Secretary—Dr. Vince Moseley, Charleston, South Carolina.

The Section then adjourned *sine die*.

SECTION ON GASTROENTEROLOGY

Officers

Chairman—Dr. Donald F. Marion, Miami, Florida.
Vice-Chairman—Dr. Jerome S. Levy, Little Rock, Arkansas.
Secretary—Dr. David Cayer, Winston-Salem, North Carolina.

Wednesday, November 15, 9:00 a.m.

The Section met in the Kiel Municipal Auditorium, Assembly Room 1, St. Louis, and was called to order by the Chairman, Dr. Donald F. Marion, Miami, Florida, who presided.

The Chairman appointed the following Nominating Committee: Dr. Cecil O. Patterson, Chairman, Dallas, Texas; Dr. John Tilden Howard, Baltimore, Maryland; and Dr. Gordon McHardy, New Orleans, Louisiana.

Dr. Joseph W. Larimore, Associate Professor of Clinical Medicine, Washington University School of Medicine, St. Louis, Missouri, read a paper entitled "Diet in the Treatment of Peptic Ulcer," which was discussed by Dr. Henry G. Rudner, Memphis, Tennessee.

Paper by Dr. Vince Moseley, Professor of Medicine, Medical College of the State of South Carolina, Charleston, South Carolina, and Dr. Walter G. Coker, Jr., Greenville, South Carolina, entitled "Clinical Evaluation of Antiacid Therapy in Peptic Ulcer" (Lantern Slides), was read by Dr. Moseley, and was discussed by Dr. Donald F. Marion, Miami, Florida; Dr. Bruce D. Kenamore, St. Louis, Missouri; Dr. Jerome S. Levy, Little Rock, Arkansas; and in closing by Dr. Moseley.

Dr. Donald F. Marion, Miami, Florida, read his Chairman's Address, entitled "Failures in Medical Treatment of Peptic Ulcer: An Analysis of Intractability as an Indication for Surgery."

Dr. Newton A. Kilgore, Jr., Assistant Professor of Clinical Medicine, Baylor University College of Medicine, Houston, Texas, read a paper entitled "Pleuropulmonary Amebiasis" (Lantern Slides), which was discussed by Dr. J. Arnold Bargen, Rochester, Minnesota; Dr. Gordon McHardy, New Orleans, Louisiana; and in closing by the essayist.

Dr. William D. Davis, Jr., Department of Internal Medicine, Tulane University School of Medicine, New Orleans, Louisiana, read a paper entitled "A Critical Evaluation of Therapy in Cirrhosis."

Paper by Dr. Jerome S. Levy, Dr. Alfred G. Kahn, Jr., and Dr. Robert Talley, University of Arkansas School of Medicine, Little Rock, Arkansas, entitled "Cirrhosis, A Dynamic Disease" (Lantern Slides), was read by Dr. Kahn.

Papers of Dr. Davis and Drs. Levy, Kahn and Talley were discussed by Dr. Cecil O. Patterson, Dallas, Texas; Dr. John Tilden Howard, Baltimore, Maryland; and Dr. Charles M. Caravati, Richmond, Virginia.

The Section then adjourned until 9:00 a.m. Thursday.

Thursday, November 16, 9:00 a.m.

The Section met in the Kiel Municipal Auditorium, Assembly Room 1, St. Louis, and was called to order by the Chairman, Dr. Marion, who presided.

Dr. Chester Cassel, Instructor in Medicine, Duke University School of Medicine, Durham, North Carolina, read a paper entitled "The Clinical Features of Walled-Off Perforated Peptic Ulcer: An Analysis of One Hundred Cases" (Lantern Slides), which was discussed by Dr. James F. Crenshaw, Birmingham, Alabama; and in closing by the essayist.

Dr. H. Marvin Pollard, Associate Professor of Internal Medicine, University of Michigan Medical School, Ann Arbor, Michigan, read a paper entitled "The Management of Bleeding Peptic Ulcer with Particular Reference to the Role of Transfusions."

Dr. Wingate M. Johnson, Professor of Clinical Medicine, Bowman Gray School of Medicine, Winston-Salem, North Carolina, read a paper entitled "Some Unusual Manifestations of Pancreatitis," which was discussed by Dr. Raymond O. Muether, St. Louis, Missouri; and in closing by the essayist.

Paper by Dr. Kemp Plummer, Associate in Medicine, Dr. James O. Burke, Assistant Professor of Medicine, and Dr. John P. Williams, Professor of Clinical Medicine, Medical College of Virginia, Richmond, Virginia, entitled "Observations on the Effect of Banthine in Peptic Ulcer and Chronic Ulcerative Colitis" (Lantern Slides), was read by Dr. Plummer.

Dr. Edgar J. Poth, Professor of Surgery, University of Texas Medical Branch, Galveston, Texas, read a paper entitled "Banthine in the Treatment of Duodenal Ulcer" (Lantern Slides).

Papers by Drs. Plummer, Burke and Williams and Dr. Poth were discussed by Dr. J. Arnold Bargen, Rochester, Minnesota; Dr. Charles M. Caravati, Richmond, Virginia; Dr. Gordon McHardy, New Orleans, Louisiana; and in closing by Dr. Plummer and Dr. Poth.

Dr. Edmond K. Doak, Assistant Professor of Clinical Medicine, Baylor University College of Medicine, Houston, Texas, read a paper entitled "Esophageal Hiatus Hernia Simulating Coronary Artery Disease," which was discussed by Dr. E. Sterling Nichol, Miami, Florida; and in closing by the essayist.

A Special Committee named to consider the current problems relative to the affairs of this Section and to assist the officers of next year, if they wish, in the program planning is composed of: Dr. Julian M. Ruffin, Durham, North Carolina; Dr. John Tilden Howard, Baltimore, Maryland; Dr. Cecil O. Patterson, Dallas, Texas; Dr. Gordon McHardy, New Orleans, Louisiana; Dr. James L. Borland, Jacksonville, Florida; and the 1951 officers.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. Jerome S. Levy, Little Rock, Arkansas.
Vice-Chairman—Dr. Milford O. Rouse, Dallas, Texas.
Secretary—Dr. David Cayer, Winston-Salem, North Carolina.

The Section then adjourned *sine die*.

SECTION ON NEUROLOGY AND PSYCHIATRY

Officers

Chairman—Dr. R. Burke Suitt, Durham, North Carolina.
Secretary—Dr. Sullivan G. Bedell, Jacksonville, Florida.

Thursday, November 16, 9:00 a.m.

The Section met in the Kiel Municipal Auditorium, Room 3-A, St. Louis, and was called to order by the Chairman, Dr. R. Burke Suitt, Durham, North Carolina, who read his Chairman's Address, entitled "Reckoning in Southern Neurology and Psychiatry."

The Chairman appointed the following Nominating Committee: Dr. James Asa Shield, Chairman, Richmond, Virginia; Dr. Theodore A. Watters, New Orleans, Louisiana; and Dr. James L. Anderson, Miami, Florida.

The Chairman requested the Nominating Committee also to act as an Obituary Committee to prepare suitable resolution on the Vice-Chairman, Dr. Ernest H. Alderman, Richmond, Virginia, who died on June 27, 1950. The members of the Section stood silently with bowed heads in memory of Dr. Alderman.

Dr. Homer S. Swanson, Emory University Hospital, Emory University, Georgia, read a paper entitled "Spontaneous Thrombosis of Internal Carotid Artery," which was discussed by Dr. Leonard T. Furlow, St. Louis, Missouri; Dr. Averill Stowell, Tulsa, Oklahoma; Dr. Eugene L. Wenk, Shreveport, Louisiana; Dr. Charles E. Dowman, Atlanta, Georgia; Dr. Henry Rives Coleman Chalmers, Atlanta, Georgia; Dr. R. Burke Suitt, Durham, North Carolina; Dr. J. G. Lyerly, Jacksonville, Florida; and in closing by the essayist.

Dr. Richard W. Garnett, Jr., University of Virginia Hospital, Charlottesville, Virginia, read a paper entitled "Problems and Opportunities of Psychosomatic Practice in a General Hospital," which was discussed by Dr. Henry Rives Coleman Chalmers, Atlanta, Georgia; Dr. Alden Raisbeck, Chicago, Illinois; and in closing by the essayist.

Dr. Hunter P. Harris, New Orleans, Louisiana, read a paper entitled "Some Implications of Negativistic Phenomena," which

was discussed by Dr. Alden Raisbeck, Chicago, Illinois; and in closing by the essayist.

Dr. Leopold Hofstatter, St. Louis State Hospital, St. Louis, Missouri, read a paper entitled "Mesantoin in the Management of the Hospitalized Psychotic Epileptic" (Lantern Slides), which was discussed by Dr. Walter L. Moore, St. Louis, Missouri; Dr. Dallas J. Dyer, St. Louis, Missouri; and in closing by the essayist.

Dr. J. G. Lyerly, Jacksonville, Florida, read a paper entitled "The Neurosurgical Aspect of Spontaneous Subarachnoid Hemorrhage" (Lantern Slides), which was discussed by Dr. Henry G. Schwartz, St. Louis, Missouri; Dr. R. Eustace Semmes, Memphis, Tennessee; and in closing by the essayist.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. Sullivan G. Bedell, Jacksonville, Florida.
Vice-Chairman—Dr. R. Eustace Semmes, Memphis, Tennessee.
Secretary—Dr. George S. Fultz, Jr., Richmond, Virginia.

The Section then adjourned *sine die*.

SECTION ON PEDIATRICS

Officers

Chairman—Dr. William L. Funkhouser, Atlanta, Georgia.
Vice-Chairman—Dr. Coursen B. Conklin, Washington, D. C.
Secretary—Dr. James G. Hughes, Memphis, Tennessee.

Wednesday, November 15, 9:00 a.m.

The Section met in the Kiel Municipal Auditorium, Assembly Room 2, St. Louis, and was called to order by the Chairman, Dr. William L. Funkhouser, Atlanta, Georgia, who presided.

Paper by Dr. Edwin L. Kendig, Jr., Associate in Pediatrics and Chief of the Children's Chest Clinic, and Dr. Lee E. Sutton, Jr., Professor of Pediatrics, Medical College of Virginia, Richmond, Virginia, entitled "Streptomycin and Promizole in the Treatment of Tuberculous Meningitis in Children" (Lantern Slides), was read by Dr. Kendig.

Dr. David Goldring, Assistant Professor of Pediatrics, Washington University School of Medicine, St. Louis, Missouri, read a paper entitled "Clinical Applications of ACTH Therapy in Pediatrics" (Lantern Slides), which was discussed by Dr. Jean Holowach, St. Louis, Missouri; Dr. Harry M. Gilkey, Kansas City, Missouri; Dr. Henry H. Turner, Oklahoma City, Oklahoma; and in closing by the essayist.

Dr. William A. Reilly, Professor of Pediatrics, University of Arkansas School of Medicine, Little Rock, Arkansas, read a paper entitled "Thyroid Deficiency in Childhood" (Lantern Slides), which was discussed by Dr. Henry H. Turner, Oklahoma City, Oklahoma; and in closing by the essayist.

Dr. William L. Funkhouser, Associate Professor Emeritus of Pediatrics, Emory University School of Medicine, Atlanta, Georgia, read his Chairman's Address entitled "The South's Service to the Crippled Child" (Lantern Slides).

Dr. Ralph Bowen, Associate Professor of Medicine, Baylor University College of Medicine, Houston, Texas, read a paper entitled "Insect Allergy" (Lantern Slides), which was discussed by Dr. Carroll M. Pounders, Oklahoma City, Oklahoma.

The Chairman appointed the following Nominating Committee: Dr. Harvey F. Garrison, Chairman, Jackson, Mississippi; Dr. Carroll M. Pounders, Oklahoma City, Oklahoma; and Dr. C. H. Farmer, Macon, Georgia.

The Section adjourned until 9:00 a.m. Thursday.

Thursday, November 16, 9:00 a.m.

The Section met in the Kiel Municipal Auditorium, Assembly Room 2, St. Louis, and was called to order by the Chairman, Dr. Funkhouser, who presided.

Dr. Leroy J. Stephens, Senior Instructor in Pediatrics, St. Louis University School of Medicine, St. Louis, Missouri, read a paper entitled "Pediatric Management of Esophageal and Tracheal Fistula" (Lantern Slides).

Dr. Peter G. Danis, Associate Professor of Pediatrics and Head of the Department of Pediatrics, St. Louis University School of Medicine, St. Louis, Missouri, read a paper entitled "Pulmonary Arteriovenous Shunt and Its Clinical Implications."

Dr. Chester P. Lynxwiler, Director, Section of Pediatric Cardiology, St. Louis University School of Medicine, St. Louis, Missouri, read a paper entitled "Coarctation of the Aorta: Four Successfully Operated Cases" (Lantern Slides).

Papers of Dr. Stephens, Dr. Danis and Dr. Lynxwiler were discussed by Dr. James L. Mudd, St. Louis, Missouri.

Dr. Charles R. Doyle, Assistant Clinical Professor of Surgery, St. Louis University School of Medicine, St. Louis, Missouri, read a paper entitled "Diagnosis and Treatment of Meconium Peritonitis" (Lantern Slides).

Dr. Sidney Smith, Assistant Professor of Surgery, St. Louis University School of Medicine, St. Louis, Missouri, read a paper entitled "Surgical Indications in the Icteric Infant."

Dr. Raymond J. LaDriere, Assistant in Pediatrics, St. Louis University School of Medicine, St. Louis, Missouri, read a paper entitled "Thrombocytopenia of the Newborn."

Papers of Dr. Doyle, Dr. Smith and Dr. LaDriere were discussed by Dr. Jackson K. Eto, St. Louis, Missouri; Dr. William A. Reilly, Little Rock, Arkansas; Dr. James G. Hughes, Memphis, Tennessee; and in closing by Dr. Doyle and Dr. Smith.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. William A. Reilly, Little Rock, Arkansas.
Vice-Chairman—Dr. Lamar Arrington, Meridian, Mississippi.
Secretary—Dr. James G. Hughes, Memphis, Tennessee.

The Section then adjourned *sine die*.

SECTION ON PATHOLOGY

Officers

Chairman—Dr. Cyrus C. Erickson, Memphis, Tennessee.
Vice-Chairman—Dr. J. F. A. McManus, Charlottesville, Virginia.
Secretary—Dr. H. R. Pratt-Thomas, Charleston, South Carolina.

Wednesday, November 15, 2:00 p.m.

The Section met in the Kiel Municipal Auditorium, Room 3-B, St. Louis, and was called to order by the Chairman, Dr. Cyrus C. Erickson, Professor of Pathology, University of Tennessee College of Medicine, Memphis, Tennessee, who read his Chairman's Address, entitled "Heterologous Ocular Transplants in the Study or Diagnosis of Neoplasms" (Lantern Slides), Dr. Lee Howard and Dr. Hugh Dortch, Department of Pathology, Duke University School of Medicine, Durham, North Carolina, collaborating, which was discussed by Dr. Jacob Furth, Oak Ridge, Tennessee; and in closing by Dr. Erickson.

The Chairman appointed the following Nominating Committee: Dr. Roger D. Baker, Chairman, Birmingham, Alabama; Dr. Douglas H. Sprunt, Memphis, Tennessee; and Dr. John A. Saxton, Jr., St. Louis, Missouri.

Paper by Dr. Jacob Furth, Dr. G. A. Andrews, Dr. R. H. Storey and Dr. L. Wish, Oak Ridge, Tennessee, entitled "The Effect of X-Irradiation on Plasma, Cell Volumes and Erythrogenesis" (Lantern Slides), was read by Dr. Furth.

Dr. R. H. Rigdon, Professor of Pathology, University of Texas Medical Branch, Galveston, Texas, read a paper entitled "Frequency of Cancer of the Lung in All Neoplasms Studied at Autopsy" (Lantern Slides), which was discussed by Dr. John A. Saxton, Jr., St. Louis, Missouri; Dr. Ruth Silberberg, St. Louis, Missouri; and in closing by the essayist.

Dr. James W. Kernohan, Professor of Pathology, Mayo Foundation University of Minnesota Graduate School, Rochester, Minnesota, read a paper entitled "Spinal Cord Tumors" (Lantern Slides).

Dr. J. F. A. McManus, Associate Professor of Pathology, University of Virginia Department of Medicine, Charlottesville, Virginia, read a paper entitled "Practical Histochemical Technics for Tissue Pathology" (Lantern Slides).

Paper by Dr. Jerome O. Williams, Department of Pathology, Dr. David Cayer, Department of Internal Medicine, and Dr. W. E. Cornatzer, Department of Biochemistry, Bowman Gray School of Medicine, Winston-Salem, North Carolina, entitled "An Evaluation of Lipotropic Factors in the Treatment of Cirrhosis as Determined by Biopsy and Study of Phospholipid Turnover with Radioactive Phosphorus" (Lantern Slides), was read by Dr. Williams, and was discussed by Dr. David Cayer, Winston-Salem, North Carolina; Dr. Donald A. Sutherland, Washington, D. C.; Dr. Douglas H. Sprunt, Memphis, Tennessee; Dr. George Thomas

Harrell, Winston-Salem, North Carolina; and in closing by Dr. Cayer.

Dr. Harold W. Keschner, Veterans Administration Hospital, Coral Gables, Florida, read a paper entitled "The Heart in Hemochromatosis: A Histochemical Study" (Lantern Slides), which was discussed by Dr. M. Pinson Neal, Columbia, Missouri; and in closing by the essayist.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. J. F. A. McManus, Charlottesville, Virginia.
Vice-Chairman—Dr. Paul Kimmelstiel, Charlotte, North Carolina.
Secretary—Dr. H. R. Pratt-Thomas, Charleston, South Carolina.

The Section then adjourned *sine die*.

SECTION ON RADIOLOGY

Officers

Chairman—Dr. Gerard Raap, Miami, Florida.
Vice-Chairman—Dr. Joseph C. Bell, Louisville, Kentucky.
Secretary—Dr. Robert C. Pendergrass, Americus, Georgia.

Wednesday, November 15, 9:00 a.m.

The Section met in the Kiel Municipal Auditorium, Room 3-A, St. Louis, and was called to order by the Chairman, Dr. Gerard Raap, Miami, Florida, who read his Chairman's Address entitled "A Position of Value in the Roentgen Study of the Pelvis" (Lantern Slides), which was discussed by Dr. Thomas H. Lipscomb, Jacksonville, Florida; Dr. John R. Maxfield, Jr., Dallas, Texas; and in closing by the essayist.

Paper by Dr. Jesshill Love, Dr. G. N. Combs, Dr. W. A. Askew and Dr. M. Harcourt, Louisville, Kentucky, entitled "A Method for Improving Tumor Dose Distribution" (Lantern Slides), was read by Dr. Love, and was discussed by Dr. Edwin C. Ernst, St. Louis, Missouri; Dr. Thomas H. Lipscomb, Jacksonville, Florida; Dr. John R. Maxfield, Jr., Dallas, Texas; and in closing by Dr. Love.

Dr. Cesare Gianturco, Radiologist to the Carle Memorial Hospital, Urbana, Illinois, read a paper entitled "Gastric Examination by the Double Contrast Method" (Lantern Slides), which was discussed by Dr. Wendell G. Scott, St. Louis, Missouri.

The Chairman appointed the following Nominating Committee: Dr. Edwin C. Ernst, Chairman, St. Louis, Missouri; Dr. Wendell G. Scott, St. Louis, Missouri; and Dr. Robert D. Moreton, Fort Worth, Texas.

Dr. Robert D. Moreton, Fort Worth, Texas, read a paper entitled "Radiographic Findings in Protruded Cervical Discs" (Lantern Slides), which was discussed by Dr. George Ehni, Houston, Texas; and in closing by the essayist.

Paper by Dr. John C. Glenn, Jr., Assistant Professor of Radiology, and Dr. Allen Taylor, Teaching Fellow in Radiology, Duke University School of Medicine, Durham, North Carolina, entitled "Tumors of the Jaws" (Lantern Slides), was read by Dr. Glenn, and was discussed by Dr. Hugh M. Wilson, St. Louis, Missouri.

Dr. Stephen W. Brown, Associate Professor of Clinical Roentgenology, Medical College of Georgia, Augusta, Georgia, read a paper entitled "Problems in Diagnosis of Carcinoma of the Lung" (Lantern Slides), which was discussed by Dr. Leroy Sante, St. Louis, Missouri; Dr. Harry A. Olin, Litchfield, Illinois; Dr. Thomas H. Lipscomb, Jacksonville, Florida; Dr. Edwin C. Ernst, St. Louis, Missouri; and in closing by the essayist.

The Nominating Committee reported the following nominations for the Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. Joseph C. Bell, Louisville, Kentucky.
Vice-Chairman—Dr. Robert C. Pendergrass, Americus, Georgia.
Secretary—Dr. Stephen W. Brown, Augusta, Georgia.

The Section then adjourned *sine die*.

SECTION ON DERMATOLOGY AND SYPHILOLOGY

Officers

Chairman—Dr. Wiley M. Sams, Miami, Florida.
Vice-Chairman—Dr. J. Lamar Callaway, Durham, North Carolina.
Secretary—Dr. D. Truett Gandy, Houston, Texas.

Wednesday, November 15, 2:00 p.m.

The Section met in the Kiel Municipal Auditorium, Room 3-A, St. Louis, and was called to order by the Chairman, Dr. Wiley M. Sams, Miami, Florida, who read his Chairman's Address, entitled "Humidity: Its Relation to Problems in Dermatology."

The Chairman appointed the following Nominating Committee: Dr. C. W. Lane, Chairman, St. Louis, Missouri; Dr. M. T. Van Studdiford, New Orleans, Louisiana; and Dr. A. H. Lancaster, Knoxville, Tennessee.

The Chairman appointed Dr. C. A. Andrews, Chairman, Tampa, Florida; Dr. Joseph M. Hitch, Raleigh, North Carolina, and Dr. William Howard Hailey, Atlanta, Georgia, as a Committee to prepare a suitable letter of condolence for the Section to be sent to the families of two deceased members: Dr. Dudley C. Smith, Charlottesville, Virginia; and Dr. Elmo D. French, Miami, Florida.

Dr. Arthur C. Curtis, Professor of Dermatology and Syphilology, University of Michigan Medical School, Ann Arbor, Michigan, read a paper entitled "The Use of Paraminobenzoic Acid in Some of the Collagenous Tissue Diseases" (Lantern Slides).

Paper by Dr. William R. Bundick and Dr. Francis A. Ellis, Baltimore, Maryland, entitled "Lupus Erythematosus: Classification, Diagnostic and Prognostic Value of Biopsies" (Lantern Slides), was read by Dr. Ellis, and was discussed by Dr. Winston U. Rutledge, Louisville, Kentucky; Dr. David G. Welton, Charlotte, North Carolina; Dr. Richard S. Weiss, St. Louis, Missouri; Dr. David I. Macht, Baltimore, Maryland; and in closing by Dr. Ellis.

Dr. David I. Macht, Department of Pharmacology, Sinai Hospital, Baltimore, Maryland, read a paper entitled "New Studies, Experimental and Clinical, on Pemphigus" (Lantern Slides), which was discussed by Dr. Charles C. Dennie, Kansas City, Missouri; Dr. Martin F. Engman, Jr., St. Louis, Missouri; and in closing by the essayist.

Dr. R. L. Sutton, Jr., Kansas City, Missouri, read a paper entitled "Dermatitis of the Hands," which was discussed by Dr. James W. Love, Alexandria, Virginia; Dr. Eugene S. Bereston, Baltimore, Maryland; Dr. Clarence S. Livingood, Galveston, Texas; Dr. D. Truett Gandy, Houston, Texas; and in closing by the essayist.

Dr. William L. Dobes, Atlanta, Georgia, read a paper entitled "A Simplified Method of Cryotherapy for Acne Vulgaris," which was discussed by Dr. Raymond J. Sherer, Birmingham, Alabama; Dr. Wiley M. Sams, Miami, Florida; and in closing by the essayist.

The Section adjourned until 2:00 p.m. Thursday.

Thursday, November 16, 2:00 p.m.

The Section met in the Kiel Municipal Auditorium, Room 3-A, St. Louis, and was called to order by the Chairman, Dr. Sams, who presided.

Paper by Dr. Joseph M. Hitch, Dr. Thomas B. Wilson and Dr. Ann Scoggins, Raleigh, North Carolina, entitled "Evaluation of a Rapid Method of Cytologic Diagnosis in Suspected Skin Cancer" (Lantern Slides), was read by Dr. Hitch, and was discussed by Dr. Onis G. Hazel, Oklahoma City, Oklahoma; Dr. Zola K. Cooper, St. Louis, Missouri; Dr. Charles C. Dennie, Kansas City, Missouri; and in closing by Dr. Hitch.

Dr. James G. Thompson, Jackson, Mississippi, read a paper entitled "One-Year Survey in Treatment of Skin Cancer," which was discussed by Dr. J. Franklin Campbell, Fort Worth, Texas; Dr. M. Allen Forbes, Jr., Austin, Texas; and in closing by the essayist.

Dr. Edmund N. Walsh, Temple, Texas, read a paper entitled "The Management of Senile Keratoses with Particular Reference to the Effect of Vitamin A" (Lantern Slides), which was discussed by Dr. V. Medd Henington, New Orleans, Louisiana; Dr. C. M. Hamilton, Nashville, Tennessee; Dr. Carey C. Barrett, Lexington, Kentucky; Dr. Onis G. Hazel, Oklahoma City, Oklahoma; Dr. Martin F. Engman, Jr., St. Louis, Missouri; Dr. Richard S. Weiss, St. Louis, Missouri; and in closing by the essayist.

The Section by unanimous vote thanked the St. Louis group individually and collectively for its wonderful Clinic, entertainment and fellowship furnished at the meeting.

Paper by Dr. Harry M. Robinson and Dr. Harry M. Robinson, Jr., Baltimore, Maryland, entitled "Aureomycin: Oral, Injectable and Local Use in Dermatoses" (Lantern Slides), was read by Dr. Robinson, Jr., and was discussed by Dr. C. Jack Young, Oklahoma City, Oklahoma; Dr. Clarence S. Livingood, Galveston, Texas; and in closing by Dr. Robinson, Jr.

Paper by Dr. Clarence S. Livingood, Dr. J. Fred Mullins, Dr. Samchai Nilasena and Dr. Elizabeth Spoor, University of Texas Medical Branch, Galveston, Texas, entitled "Chloromycetin in the Treatment of Pyogenic Infections of the Skin" (Lantern Slides), was read by Dr. Livingood, and was discussed by Dr. Richard S. Weiss, St. Louis, Missouri; Dr. M. T. Van Studdiford, New Orleans, Louisiana; Dr. J. Lamar Callaway, Durham, North Carolina; Dr. Harry M. Robinson, Jr., Baltimore, Maryland; and in closing by Dr. Livingood.

Paper by Dr. Joseph L. Rankin, Dr. William L. Dobes, Dr. Jack W. Jones and Dr. Herbert S. Alden, Atlanta, Georgia, entitled "Ringworm of the Scalp: Treatment with Spergon, Clinical and Laboratory Analysis," was read by Dr. Rankin, and was discussed by Dr. Ray O. Noojin, Birmingham, Alabama; Dr. Irving D. London, Montgomery, Alabama; Dr. James G. Thompson, Jackson, Mississippi; Dr. Robert C. Thompson, Charlottesville, Virginia; Dr. Everett R. Seale, Houston, Texas; Dr. Morris Moore, St. Louis, Missouri; Dr. Emmett R. Hall, Memphis, Tennessee; Dr. D. Truett Gandy, Houston, Texas; Dr. M. Allen Forbes, Jr., Austin, Texas; and in closing by Dr. Rankin.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. J. Lamar Callaway, Durham, North Carolina.
Vice-Chairman—Dr. Martin F. Engman, Jr., St. Louis, Missouri.
Secretary—Dr. D. Truett Gandy, Houston, Texas.

The Section then adjourned *sine die*.

SECTION ON ALLERGY

Officers

Chairman—Dr. Mason I. Lowance, Atlanta, Georgia.
Vice-Chairman—Dr. Alan G. Cazort, Little Rock, Arkansas.
Secretary—Dr. Vincent J. Derbes, New Orleans, Louisiana.

Wednesday, November 15, 1:00 p.m.

The Section had a Round Table Luncheon at the Jefferson Hotel, St. Louis. Dr. Stanley F. Hampton, Instructor in Internal Medicine, Washington University School of Medicine, and Consultant in Allergy, Barnes Hospital, St. Louis, Missouri, led the discussion on "The Use of ACTH and Cortisone in Allergy."

Thursday, November 16, 2:00 p.m.

The Section met in the Kiel Municipal Auditorium, Room 3-D, St. Louis, and was called to order by the Chairman, Dr. Mason I. Lowance, Atlanta, Georgia, who read his Chairman's Address entitled "A Plea for Standardization of Skin Testing Material" (Lantern Slides), which was discussed by Dr. Bernard G. Efron, New Orleans, Louisiana; Dr. Chauncey D. Leake, Galveston, Texas; and in closing by the essayist.

The Chairman appointed the following Nominating Committee: Dr. Charles H. Eyermann, Chairman, St. Louis, Missouri; Dr. Marion T. Davidson, Birmingham, Alabama; and Dr. Carroll M. Pounders, Oklahoma City, Oklahoma.

Dr. Jonathan Forman, Professor of History of Medicine, Ohio State University College of Medicine, and Chairman of the Board, American College of Allergists, Columbus, Ohio, read a paper entitled "Urticaria," which was discussed by Dr. Marion T. Davidson, Birmingham, Alabama; Dr. Chauncey D. Leake, Galveston, Texas; and in closing by the essayist.

Dr. Chauncey D. Leake, Vice-President and Professor of Pharmacology, University of Texas Medical Branch, Galveston, Texas, read a paper entitled "An Analysis of Drugs Used in Allergy" (Lantern Slides), which was discussed by Dr. Ralph Bowen, Houston, Texas; and Dr. Bernard G. Efron, New Orleans, Louisiana.

Paper by Dr. Neill K. Weaver, National Heart Institute Fellow, Department of Medicine, Tulane University School of Medicine, New Orleans, Louisiana, entitled "The Role of Hypersensitivity in Rheumatic Fever" (Lantern Slides), was read by Dr. Bernard G. Efron, New Orleans, Louisiana, in the absence of Dr. Weaver due to illness.

Dr. Herbert S. Alden, Assistant Professor of Clinical Medicine (Dermatology), Emory University School of Medicine, Atlanta, Georgia, read a paper entitled "Some Suggestions on the Dermatological Care of the Atopic Patient" (Lantern Slides), which was discussed by Dr. Alan G. Cazort, Little Rock, Arkansas.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. Alan G. Cazort, Little Rock, Arkansas.
Vice-Chairman——Dr. Vincent J. Derbes, New Orleans, Louisiana.
Secretary—Dr. Ralph Bowen, Houston, Texas.

The Section then adjourned *sine die*.

SECTION ON PHYSICAL MEDICINE AND REHABILITATION

Officers

Chairman—Dr. Walter J. Lee, Richmond, Virginia.
Vice-Chairman—Dr. E. M. Smith, Washington, D. C.
Secretary—Dr. A. Ray Dawson, Richmond, Virginia.

Wednesday, November 15, 2:00 p.m.

The Section met in the Kiel Municipal Auditorium, Room B, St. Louis, and was called to order by the Vice-Chairman, Dr. E. M. Smith, Washington, D. C., who presided.

In the absence of Dr. Walter J. Lee, Associate Professor of Physical Medicine, Medical College of Virginia, Richmond, Virginia, due to illness in his family, his Chairman's Address entitled "The Use of Heat in General Practice," was read by Dr. George D. Wilson, Asheville, North Carolina.

Dr. B. B. Bagby, Jr., Chief, Physical Medicine Rehabilitation Service, Veterans Administration Hospital, Oteen, North Carolina, read a paper entitled "A Report on Three Years' Activities in the Veterans Administration Tuberculosis Rehabilitation Center," which was discussed by Dr. A. Ray Dawson, Richmond, Virginia; Dr. George D. Wilson, Asheville, North Carolina; Dr. Donald L. Rose, Kansas City, Kansas; and in closing by the essayist.

Dr. Sedgwick Mead, Assistant Professor of Physical Medicine, Washington University School of Medicine, St. Louis, Missouri, read a paper entitled "Physical Treatment in Internal Medicine" (Lantern Slides), which was discussed by Dr. E. M. Smith, Washington, D. C.; Dr. Walter E. Fleischer, Baltimore, Maryland; Dr. A. Ray Dawson, Richmond, Virginia; and in closing by the essayist.

The Secretary, Dr. A. Ray Dawson, Richmond, Virginia, presided for the remainder of the session.

Dr. Donald L. Rose, Associate Professor of Physical Medicine, University of Kansas School of Medicine, Kansas City, Kansas, read a paper entitled "Conservative Management of the Painful Shoulder" (Lantern Slides), which was discussed by Dr. Sedgwick Mead, St. Louis, Missouri; Dr. A. Ray Dawson, Richmond, Virginia; and in closing by the essayist.

Dr. Odon F. Von Werssowetz, Chief, Physical Medicine Rehabilitation Service, Thayer Veterans Administration Hospital, Nashville, Tennessee, read a paper entitled "Guillain-Barre Syndrome," which was discussed by Dr. Leland B. Alford, St. Louis, Missouri; and Dr. A. Ray Dawson, Richmond, Virginia.

Dr. A. B. C. Knudson, Chief, Physical Medicine Rehabilitation Division, Central Office, Veterans Administration, Washington, D. C., read a paper entitled "Physical Medicine and Rehabilitation: Progress and Objectives in the Veterans Administration" (Motion Pictures), which was discussed by Dr. Florence I. Mahoney, Memphis, Tennessee.

There was a call for the nominations of Section officers, the following nominees being duly elected by vote of the Section:

Chairman—Dr. E. M. Smith, Washington, D. C.
Vice-Chairman—Dr. A. Ray Dawson, Richmond, Virginia.
Secretary—Dr. Sedgwick Mead, St. Louis, Missouri.

The Section then adjourned *sine die*.

SECTION ON INDUSTRIAL MEDICINE AND SURGERY

Officers

Chairman—Dr. Gradie R. Rowntree, Louisville, Kentucky.
Vice-Chairman—Dr. Kieffer D. Davis, Bartlesville, Oklahoma.
Secretary—Dr. J. J. Brandabur, Huntington, West Virginia.

Wednesday, November 15, 9:00 a.m.

The Section met in the Kiel Municipal Auditorium, Room C, St. Louis, and was called to order by the Chairman, Dr. Gradie R. Rowntree, Chief of Section on Industrial Medicine, University of

Louisville School of Medicine, Louisville, Kentucky, who read by title his Chairman's Address entitled "How Industrial Health Can Extend Its Scope of Service."

Dr. Carl T. Olson, Division Medical Director, Loss Prevention Department, Liberty Mutual Insurance Company, Chicago, Illinois, read a paper entitled, "Trends in Compensation Legislation," and was discussed by Dr. Richard A. Sutter, St. Louis, Missouri; and in closing by the essayist.

Paper by Dr. Fred C. Reynolds and Dr. Lee T. Ford, Washington University School of Medicine, St. Louis, Missouri, entitled "The Orthopedic Shoulder Problem as Related to Industrial Medicine" (Lantern Slides), was read by Dr. Ford, and was discussed by Dr. R. Emmet Kelly, St. Louis, Missouri; and in closing by Dr. Reynolds.

The Chairman appointed the following Nominating Committee: Dr. George H. McDonald, Chairman, St. Louis, Missouri; Dr. R. Emmet Kelly, St. Louis, Missouri; and Dr. Harry H. Hudson, Nashville, Tennessee.

Dr. Paul C. Campbell, Jr., Fayetteville, North Carolina, read a paper entitled "The Detection of Industrial Dermatoses," which was discussed by Dr. Douglas A. Ries, St. Louis, Missouri; and in closing by the essayist.

Paper by Dr. Morris M. Weiss and Dr. William R. Gray, Louisville, Kentucky, entitled "Employability of Men After Acute Myocardial Infarction" (Lantern Slides), was read by Dr. Weiss, and was discussed by Dr. Arthur I. Chenoweth, Birmingham, Alabama; Dr. Walter E. Fleischer, Baltimore, Maryland; Dr. Gradie R. Rowntree, Louisville, Kentucky; Dr. Lester M. Petrie, Atlanta, Georgia; and in closing by Dr. Weiss.

Dr. Lester M. Petrie, Director, Division of Industrial Hygiene, State Department of Health, Atlanta, Georgia, read a paper entitled "Health Maintenance for Small Plants" (Lantern Slides), which was discussed by Dr. Walter E. Fleischer, Baltimore, Maryland; Dr. George H. McDonald, St. Louis, Missouri; Dr. R. Emmet Kelly, St. Louis, Missouri; and in closing by the essayist.

The Nominating Committee reported and the following were duly elected:

Chairman—Dr. Kieffer D. Davis, Bartlesville, Oklahoma.
Vice-Chairman—Dr. Richard A. Sutter, St. Louis, Missouri.
Secretary—Dr. J. J. Brandabur, Huntington, West Virginia.

The Section then adjourned *sine die*.

SECTION ON SURGERY

Officers

Chairman—Dr. David Henry Poer, Atlanta, Georgia.
Vice-Chairman—Dr. Thomas Kerr Laird, Montgomery, West Virginia.
Secretary—Dr. James M. Mason, III, Birmingham, Alabama.

Wednesday, November 15, 2:00 p.m.

The Section met in the Kiel Municipal Auditorium, Room C, St. Louis, and was called to order by the Chairman, Dr. David Henry Poer, who presided.

Paper by Dr. Francis M. Massie and Dr. James T. McClellan, Lexington, Kentucky, entitled "Sarcoma of the Breast" (Lantern Slides), was read by Dr. Massie and was discussed by Dr. Frank E. Adair, New York, New York; Dr. Frank Chunn, Tampa, Florida; and Dr. Enoch Callaway, LaGrange, Georgia.

Dr. Frank E. Adair, Associate Professor of Clinical Surgery, Cornell University Medical College, New York, New York, read a paper entitled "Hormone Therapy in Cases of Advanced Breast Cancer" (Lantern Slides).

Dr. Amos R. Koontz, Johns Hopkins University School of Medicine, Baltimore, Maryland, read a paper entitled "Inguinal Hernias: Why Do They Recur?" (Lantern Slides), which was discussed by Dr. Leo M. Zimmerman, Chicago, Illinois.

SYMPOSIUM ON NONOPERATIVE REQUIREMENTS OF THE SURGICAL PATIENT

Dr. Robert Elman, St. Louis, Missouri, read a paper entitled "Sodium and Potassium Depletion in the Surgical Patient" (Lantern Slides).

Dr. Hugh C. Ilgenfritz, Shreveport, Louisiana, read a paper entitled "The Prevention of Postoperative Complications."

Paper by Dr. W. Kendrick Purks and Dr. Nate Chalmers, Vicksburg, Mississippi, entitled "The Cardiac Patient as a Surgical Risk" (Lantern Slides), was read by Dr. Purks.

The Symposium was discussed by Dr. Drew Luten, St. Louis, Missouri; Dr. Robert E. L. Berry, Ann Arbor, Michigan; Dr. Charles L. Eckert, St. Louis, Missouri; and Dr. Donald W. Smith, Miami, Florida.

The Chairman appointed the following Nominating Committee, this committee also to bring in recommendations for improving future meetings of the Section: Dr. Walter C. Jones, Chairman, Miami, Florida; Dr. Enoch Callaway, LaGrange, Georgia; Dr. Robert L. Green, Jr., Birmingham, Alabama; Dr. Lee K. Gibson, Johnson City, Tennessee; Dr. Harry L. Johnson, Elkin, North Carolina; and Dr. Dan C. Donald, Birmingham, Alabama.

The Section then adjourned until 2:00 p.m. Thursday.

Thursday, November 16, 2:00 p.m.

The Section met in the Kiel Municipal Auditorium, Room C, St. Louis, and was called to order by the Chairman, Dr. Poer, Atlanta, Georgia, who presided.

Paper by Dr. Robert M. Moore, Dr. Adolph F. Kauffmann and Dr. Joseph P. McNeill, University of Texas Medical Branch, Galveston, Texas, entitled "The Problem of the Silent Gallstone" (Lantern Slides), was read by Dr. Moore, and was discussed by Dr. Arthur I. Chenoweth, Birmingham, Alabama; and in closing by Dr. Moore.

Paper by Dr. James Barrett Brown, Dr. Frank McDowell and Dr. Minot P. Fryer, Washington University School of Medicine, St. Louis, Missouri, entitled "Indications for Procedure in Plastic Surgery of the Nose" (Lantern Slides), was read by Dr. Brown.

Dr. David Henry Poer, Emory University School of Medicine, Atlanta, Georgia, read his Chairman's Address entitled "Malignant Tumors of the Duodenum" (Lantern Slides).

Dr. Mims Gage, Professor of Clinical Surgery, Tulane University School of Medicine, New Orleans, Louisiana, read a paper entitled "Acute Pancreatitis and Its Treatment," which was discussed by Dr. Ralph F. Bowers, Memphis, Tennessee; and in closing by the essayist.

Paper by Dr. Donald W. Smith and Dr. Matthew A. Larkin, Miami, Florida, entitled "The Surgical Significance of the Cardio-Splanchnic Reflex" (Lantern Slides), was read by Dr. Larkin, and was discussed by Dr. M. G. Flannery, Miami, Florida; Dr. Walter C. Jones, Miami, Florida; and in closing by Dr. Smith.

Paper of Dr. Edgar J. Poth and Dr. S. M. Fromm, University of Texas Medical Branch, Galveston, Texas, entitled "Neomycin: An Adjunct in Abdominal Surgery" (Lantern Slides), was read by Dr. Poth, and was discussed by Dr. Claude F. Dixon, Rochester, Minnesota.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. James M. Mason, III, Birmingham, Alabama.
Vice-Chairman—Dr. Franklin E. Walton, St. Louis, Missouri.
Secretary—Dr. John V. Goode, Dallas, Texas.

It was moved and carried that the two immediate past chairmen, Dr. Joseph S. Stewart, Miami, Florida, and Dr. David Henry Poer, Atlanta, Georgia, act as counselors to the incoming officers to try to build up the Section.

The Special Committee made the following report, the report being signed by the Chairman, Dr. Walter C. Jones, and the Secretary, Dr. Dan C. Donald, the report being unanimously adopted: (1) The different surgical specialties be allied with General Surgery, but it must be emphasized each specialty will participate on the program. (2) Limit presentation of each essay to fifteen minutes—discussion fifteen minutes. (3) The number of papers be increased and two full days be allotted for such presentation and discussion. (4) To promote good fellowship and stimulate the social activities an annual dinner be given on such a time as the Council recommends.

The Section then adjourned *sine die*.

SECTION ON ORTHOPEDIC AND TRAUMATIC SURGERY

Officers

Chairman—Dr. Charles E. Irwin, Warm Springs, Georgia.
Vice-Chairman—Dr. Howard A. Swart, Charleston, West Virginia.
Secretary—Dr. Rufus H. Alldredge, New Orleans, Louisiana.

Thursday, November 16, 9:00 a.m.

The Section met in the Kiel Municipal Auditorium, Room C, St. Louis, and was called to order by the Chairman, Dr. Charles E. Irwin, Warm Springs, Georgia, who presided.

The Chairman appointed the following Nominating Committee: Dr. Robert H. Ramsey, St. Louis, Missouri, Chairman; Dr. Harry D. Morris, New Orleans, Louisiana; and Dr. Robert P. Kelly, Emory University, Georgia.

The Chairman appointed a Special Committee on Program Plan for the Section: Dr. Howard A. Swart, Chairman, Charleston, West Virginia; Dr. Rufus H. Alldredge, New Orleans, Louisiana; and Dr. Robert H. Ramsey, St. Louis, Missouri.

Dr. R. Beverley Ray, Memphis, Tennessee, read a paper entitled "Fat Embolism: A Report of Six Cases" (Lantern Slides), which was discussed by Dr. George E. Roulhac, St. Louis, Missouri; Dr. James A. Brown, Houston, Texas; Dr. E. Lawrence Keyes, St. Louis, Missouri; Dr. J. Leonard Goldner, Durham, North Carolina; and in closing by the essayist.

Dr. Harry D. Morris, Associate Professor of Clinical Orthopedic Surgery, Tulane University School of Medicine, New Orleans, Louisiana, read a paper entitled "Treatment of Infantile Bow Legs and Knock Knees with Special Consideration of Therapeutic Use of Large Doses of Activated Ergosterol" (Lantern Slides), which was discussed by Dr. William J. Stewart, Columbia, Missouri; and in closing by the essayist.

Dr. George J. Garceau, Professor of Orthopedic Surgery, Indiana University School of Medicine, Indianapolis, Indiana, read a paper entitled "Simple Disc Surgery Versus the Combined Operation," which was discussed by Dr. E. Lawrence Keyes, St. Louis, Missouri; Dr. James A. Brown, Houston, Texas; and in closing by the essayist.

Dr. Charles E. Irwin, Warm Springs, Georgia, read his Chairman's Address entitled "The Calcaneus Foot" (Lantern Slides).

Paper by Dr. Robert P. Kelly, Associate Professor of Surgery, and Chairman of Section on Orthopedics, Emory University School of Medicine, Emory University, Georgia, and Dr. Fred E. Murphy, Thomasville, Georgia, entitled "Fatigue Fractures of the Tibia" (Lantern Slides), was read by Dr. Murphy, and was discussed by Dr. Thomas Beath, Richmond, Virginia; Dr. Robert P. Kelly, Emory University, Georgia; and in closing by Dr. Murphy.

Paper by Dr. Maurice B. Roche, Dr. Frederick A. Jostes and Dr. Roland F. Neumann, Veterans Administration Hospital, Jefferson Barracks, St. Louis, Missouri, was read by Dr. Roche, and was discussed by Dr. Hugh M. A. Smith, Jr., Memphis, Tennessee; Dr. Rufus H. Alldredge, New Orleans, Louisiana; and in closing by Dr. Roche.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. Howard A. Swart, Charleston, West Virginia.
Vice-Chairman—Dr. Rufus H. Alldredge, New Orleans, Louisiana.
Secretary—Dr. R. Beverly Raney, Durham, North Carolina.

The Section then adjourned *sine die*.

SECTION ON OBSTETRICS

Officers

Chairman—Dr. Williamson Z. Bradford, Charlotte, North Carolina.
Vice-Chairman—Dr. Walter A. Ruch, Memphis, Tennessee.
Secretary—Dr. Hugh G. Hamilton, Kansas City, Missouri.

Wednesday, November 15, 9:00 a.m.

The Section met in the Kiel Municipal Auditorium, Room 3-C, St. Louis, and was called to order by the Chairman, Dr. Williamson Z. Bradford, Charlotte, North Carolina, who presided.

The Chairman appointed the following Nominating Committee: Dr. W. D. Suggs, Chairman, Richmond, Virginia; Dr. Charles J. Collins, Orlando, Florida; and Dr. Woodard D. Beacham, New Orleans, Louisiana.

Paper by Dr. Oren A. Ellingson and Dr. R. Hugh Douglas, Tampa, Florida, entitled "Physiological Labor with Saddle Block Anesthesia for Delivery," was read by Dr. Ellingson, and was discussed by Dr. W. Reed Wood, Greensboro, North Carolina; Dr. Willard M. Allen, St. Louis, Missouri; and in closing by Dr. Ellingson.

Due to illness of Dr. Frank E. Whitacre, Chief of Division of Obstetrics and Gynecology, University of Tennessee College of Medicine, Memphis, Tennessee, his paper entitled "The Management of Eclampsia" (Lantern Slides), was read by Dr. Oliver DeLozier, Memphis, Tennessee, and was discussed by Dr. Willis E. Brown, Little Rock, Arkansas; Dr. Richard Paddock, St. Louis, Missouri; Dr. William M. Howdon, Miami, Florida; Dr. Stanley T. Garber, Cincinnati, Ohio; and in closing by Dr. DeLozier.

The following resolution was adopted unanimously by the Section:

> Be it Resolved, That we, the members of the Section on Obstetrics of the Southern Medical Association, extend to our fellow member and Secretary, Dr. Hugh G. Hamilton, our sincere admiration for his fortitude, courage and loyalty in attending our meeting here in St. Louis in the face of adversity.*
>
> That to show our appreciation, we, the members of this Section, give him a rising vote of thanks for his faithfulness in coming to this meeting.

Dr. Harvey B. Matthews, Emeritus Professor of Clinical Obstetrics and Gynecology, Long Island College of Medicine, Brooklyn, New York, read a paper entitled "Shock in Obstetrical Practice" (Lantern Slides).

Paper by Dr. J. Morris Reese, Associate Professor of Obstetrics, and Dr. Clarence W. Martin, Assistant in Obstetrics, University of Maryland School of Medicine, Baltimore, Maryland, entitled "Tuberculosis in Pregnancy, Labor and Puerperium," was read by Dr. Reese, and was discussed by Dr. Joseph A. Hardy, Jr., St. Louis, Missouri; Dr. Garth L. Jarvis, Galveston, Texas; Dr. Hugh G. Hamilton, Kansas City, Missouri; and in closing by Dr. Reese.

Paper by Dr. Isadore A. Siegel, Assistant Professor of Obstetrics, and Dr. Hugh B. McNally, Assistant Professor of Obstetrics, University of Maryland School of Medicine, Baltimore, Maryland, entitled "Primary Breech Presentation and External Cephalic Version: The Management of 308 Primary Breech Presentations in Private Practice" (Lantern Slides), was read by Dr. Siegel, and was discussed by Dr. Leo J. Hartnett, St. Louis, Missouri; Dr. Woodard D. Beacham, New Orleans, Louisiana; and in closing by Dr. Siegel.

The Section then adjourned until 9:00 a.m. Thursday.

Thursday, November 16, 9:00 a.m.

The Section met in the Municipal Auditorium, Room 3-C, St. Louis, and was called to order by the Chairman, Dr. Bradford, who presided.

Paper by Dr. Arthur J. Mandy, Director of Obstetrical and Gynecological Psychosomatic Clinic, Sinai Hospital; Associate in Obstetrics and Gynecology, Sinai Hospital; and Assistant Psychiatrist, Henry Phipps Psychiatric Clinic, Johns Hopkins Hospital, Dr. Robert W. Farkas and Dr. Theodore E. Mandy, Baltimore, Maryland, entitled "The Natural Childbirth Illusion," was read by Dr. Arthur J. Mandy, and was discussed by Dr. Thomas Benton Sellers, New Orleans, Louisiana; Dr. Walter A. Ruch, Memphis, Tennessee; Dr. J. R. Bloss, Huntington, West Virginia; Dr. Howard A. Farrar, Manchester, Tennessee; Dr. Oren A. Ellingson, Tampa, Florida; Dr. Curtis J. Lund, New Orleans, Louisiana; and in closing by Dr. Arthur J. Mandy.

Paper by Dr. H Hudnall Ware, Jr., Dr. George R. Jones, Dr. E. P. Miller, Dr. E. C. Garber and Dr. P. J. McElrath, Medical College of Virginia Hospitals, Richmond, Virginia, entitled "Continuous Spinal Anesthesia in the Treatment of Eclampsia and Severe Preeclampsia," was read by Dr. Jones, and was discussed by Dr. William N. Thornton, Jr., Charlottesville, Virginia; Dr. Henry J. Ringo, St. Louis, Missouri; Dr. Stanley T. Garber, Cincinnati, Ohio; Dr. William M. Howdon, Miami, Florida; and in closing by Dr. Ware and Dr. Jones.

Dr. Williamson Z. Bradford, Charlotte, North Carolina, read his Chairman's Address entitled "Obstetrical Progress in the Southern States" (Lantern Slides).

Dr. Sim B. Lovelady, Assistant Professor of Obstetrics and Gynecology, Baylor University College of Medicine, Houston, Texas, read a paper entitled "Abdominal Surgical Problems Complicating Pregnancy," which was discussed by Dr. E. Lee Dorsett, St. Louis, Missouri; Dr. Curtis J. Lund, New Orleans, Louisiana; Dr. C. S. McMurray, Nashville, Tennessee; and in closing by the essayist.

Dr. Willis E. Brown, Professor and Head, Department of Obstetrics and Gynecology, University of Arkansas School of Medicine, Little Rock, Arkansas, read a paper entitled "The Management of the Borderline Pelvis," which was discussed by Dr. Paul F. Fletcher, St. Louis, Missouri; Dr. Melvin A. Roblee, St. Louis, Missouri; Dr. J. Bay Jacobs, Washington, D. C.; Dr. Silas H. Starr, Louisville, Kentucky; and in closing by the essayist.

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*Dr. Hugh G. Hamilton lost his right foot on October 16 when both barrels of his shotgun were accidentally discharged. He attended the meeting on crutches.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. Walter A. Ruch, Memphis, Tennessee.
Vice-Chairman—Dr. Hugh G. Hamilton, Kansas City, Missouri.
Secretary—Dr. Leo J. Hartnett, St. Louis, Missouri.

The Section then adjourned *sine die*.

SECTION ON GYNECOLOGY

Officers

Chairman—Dr. Walter L. Thomas, Durham, North Carolina.
Vice-Chairman—Dr. J. Randolph Perdue, Miami, Florida.
Secretary—Dr. Curtis J. Lund, New Orleans, Louisiana.

Wednesday, November 15, 2:00 p.m.

The Section met in the Kiel Municipal Auditorium, Room 3-C, St. Louis, and was called to order by the Chairman, Dr. Walter L. Thomas, Durham, North Carolina, who presided.

The Chairman appointed the following Nominating Committee: Dr. Waverly R. Payne, Chairman, Newport News, Virginia; Dr. Charles J. Collins, Orlando, Florida; and Dr. W. Nicholson Jones, Birmingham, Alabama.

SYMPOSIUM ON UTERINE BLEEDING

Dr. Jean P. Pratt, Surgeon in Charge, Department of Obstetrics and Gynecology, Henry Ford Hospital, Detroit, Michigan, read a paper entitled "Normal Menstrual Cycle" (Lantern Slides).

Dr. Willard M. Allen, Professor of Obstetrics and Gynecology, Washington University School of Medicine, St. Louis, Missouri, read a paper entitled "Functional Uterine Bleeding" (Lantern Slides).

Paper by Dr. Frank R. Lock, Professor and Director of Department of Obstetrics and Gynecology, Bowman Gray School of Medicine, Winston-Salem, North Carolina, entitled "Bleeding from Non-Malignant Lesions," was read for Dr. Lock by Dr. C. H. Mauzy, Winston-Salem, North Carolina, who was unable to attend the Section due to illness.

Dr. Walter L. Thomas, Associate Professor of Obstetrics and Gynecology, Duke University School of Medicine, Durham, North Carolina, read his Chairman's Address entitled "Uterine Bleeding Due to Malignant Neoplasms."

The Symposium was discussed by Dr. Hugh G. Hamilton, Kansas City, Missouri; Dr. Laman A. Gray, Louisville, Kentucky; Dr. Waverly R. Payne, Newport News, Virginia; Dr. William C. Keettel, Iowa City, Iowa; Dr. Karl John Karnaky, Houston, Texas; Dr. Howard W. Jones, Jr., Baltimore, Maryland; and in closing by Dr. Pratt, Dr. Allen, Dr. Mauzy and Dr. Thomas.

The Section then adjourned until 2:00 p.m. Thursday.

Thursday, November 16, 2:00 p.m.

The Section met in the Kiel Municipal Auditorium, Room 3-C, St. Louis, and was called to order by the Chairman, Dr. Thomas, who presided.

Paper by Dr. Violet H. Turner and Dr. Clarence D. Davis, Associates in Obstetrics, Gynecology and Endocrinology, Duke University School of Medicine, Durham, North Carolina, entitled "Infertility: Some Clinical Correlations Based on a Study of Five Hundred Childless Couples" (Lantern Slides), was read by Dr. Davis, and was discussed by Dr. Simon V. Ward, New Orleans, Louisiana; and in closing by Dr. Turner.

Paper by Dr. Theodore E. Mandy, Associate in Obstetrics and Gynecology, Dr. Arthur J. Mandy, Director of the Obstetrical and Gynecological Psychosomatic Clinic, and Dr. Ernest Scher, Sinai Hospital, Baltimore, Maryland, entitled "The Psychic Aspects of Sterility and Abortion," was read by Dr. Theodore E. Mandy, and was discussed by Dr. James R. Bloss, Huntington, West Virginia; Dr. Clarence D. Davis, Durham, North Carolina; Dr. Jean P. Pratt, Detroit, Michigan; and in closing by Dr. Theodore E. Mandy.

Dr. B. B. Weinstein, Associate Professor of Gynecology, Tulane University School of Medicine, New Orleans, Louisiana, read a paper entitled "Indications for Surgical Intervention in Sterility" (Lantern Slides), which was discussed by Dr. M. Y. Dabney, Birmingham, Alabama; Dr. Arthur J. Mandy, Baltimore, Maryland; and in closing by the essayist.

There was a motion made, seconded and carried that the Secretary, Dr. Lund, write a letter to Dr. H. S. Crossen, a senior gynecologist of St. Louis, expressing the regret of the Section at his inability to be present at this meeting.

A communication was received from the International Congress of Obstetrics and Gynecology, asking the Section to endorse the new International classification for the various stages of the carcinoma of the cervix. The Section by motion, duly carried, endorsed the classification.

Dr. Buford Word, Department of Gynecology, Medical College of Alabama, Birmingham, Alabama, read a paper entitled "Construction of Artificial Vagina, with Ten-Year Follow-Up Studies" (Lantern Slides), which was discussed by Dr. Grey Jones, St. Louis, Missouri; Dr. M. Y. Dabney, Birmingham, Alabama; and in closing by the essayist.

Dr. Leroy H. Sadler, Associate Professor of Gynecology, University of Oklahoma School of Medicine and University Hospitals, Oklahoma City, Oklahoma, read a paper entitled "Diagnosis, Prognosis and Treatment of Ovarian Malignancy" (Lantern Slides), which was discussed by Dr. John M. Sadler, Little Rock, Arkansas; Dr. Buford Word, Birmingham, Alabama; and in closing by the essayist.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. J. Randolph Perdue, Miami, Florida.
Vice-Chairman—Dr. Curtis J. Lund, New Orleans, Louisiana.
Secretary—Dr. William Thomas Black, Jr., Memphis, Tennessee.

The Section then adjourned *sine die*.

SECTION ON UROLOGY

Officers

Chairman—Dr. Robert F. Sharp, New Orleans, Louisiana.
Vice-Chairman—Dr. W. Vinson Pierce, Covington, Kentucky.
Secretary—Dr. Harold P. McDonald, Atlanta, Georgia.

Wednesday, November 15, 9:00 a.m.

The Section met in the Kiel Municipal Auditorium, Room B, St. Louis, and was called to order by the Chairman, Dr. Robert F. Sharp, New Orleans, Louisiana, who presided.

Paper by Dr. Kenneth M. Lynch, Jr., Medical College of the State of South Carolina, Charleston, South Carolina, and Dr. H. Lee Large, Jr., Charlotte Memorial Hospital, Charlotte, North Carolina, entitled "Posttraumatic Ischemic Infarction of the Kidney Due to Arteriospasm: A Clinicopathologic and Experimental Study" (Lantern Slides), was read by Dr. Lynch, and was discussed by Dr. Oscar B. Hunter, Washington, D. C.; Dr. J. F. A. McManus, Charlottesville, Virginia; and in closing by Dr. Lynch and Dr. Large.

Dr. Hjalmar E. Carlson, Kansas City, Missouri, read a paper entitled "Urologic Accidents in General and Gynecological Surgery," which was discussed by Dr. Bruno Barelare, Birmingham, Alabama; Dr. M. Y. Dabney, Birmingham, Alabama; Dr. Howard W. Jones, Jr., Baltimore, Maryland; Dr. Rudolph Bell, Thomasville, Georgia; Dr. Robert F. Sharp, New Orleans, Louisiana; and in closing by the essayist.

Paper by Dr. Jarratt P. Robertson, Assistant Professor of Urology, Medical College of Alabama, Birmingham, Alabama, and Dr. James W. Headstream, Little Rock, Arkansas, entitled "Cystograms in Traumatic Perforations of the Lower Urinary Tract" (Lantern Slides), was read by Dr. Robertson, and was discussed by Dr. Samuel L. Raines, Memphis, Tennessee.

Dr. J. Robert Rinker, Professor of Urology, University of Georgia School of Medicine, Augusta, Georgia, read a paper entitled "Transurethral Resection of the Bladder Neck in Treatment of Congenital Abnormalities in Children" (Lantern Slides), which was discussed by Dr. Otto J. Wilhelmi, St. Louis, Missouri; Dr. John H. Dougherty, Knoxville, Tennessee; Dr. Rex E. Van Duzen, Dallas, Texas; Dr. Elmer Belt, Los Angeles, California; Dr. Nelse F. Ockerblad, Kansas City, Missouri; and in closing by the essayist.

Dr. Elmer Belt, Los Angeles, California, read a paper entitled "Carcinoma of the Prostate" (Lantern Slides).

A Pyelogram Clinic was conducted by Dr. Elmer Belt, Los Angeles, California.

The Section adjourned until 9:00 a.m. Thursday.

Thursday, November 16, 9:00 a.m.

The Section met in the Kiel Municipal Auditorium, Room B, St. Louis, and was called to order by the Secretary, Dr. Harold P. McDonald, Atlanta, Georgia, who presided until the Chairman read his address.

Dr. Robert F. Sharp, New Orleans, Louisiana, read his Chairman's Address entitled "Vaginal Ureterolithotomy" (Lantern Slides).

Dr. Lawrence P. Thackston, Orangeburg, South Carolina, read a paper entitled "The Neglected Female Urethra" (Motion Pictures), which was discussed by Dr. Guy L. Hunner, Baltimore, Maryland; Dr. Harold P. McDonald, Atlanta, Georgia; Dr. John H. Dougherty, Knoxville, Tennessee; and in closing by the essayist.

Dr. John H. Dougherty, Knoxville, Tennessee, read a paper entitled "Ordinary Problems Met with in Electrosurgery of the Bladder Neck and Their Solution" (Lantern Slides), which was discussed by Dr. Reese C. Coleman, Jr., Atlanta, Georgia.

The Chairman appointed the following Nominating Committee: Dr. Rex E. Van Duzen, Chairman, Dallas, Texas; Dr. J. Ullman Reaves, Mobile, Alabama; and Dr. Nelse F. Ockerblad, Kansas City, Missouri.

Paper by Dr. Russell B. Carson and Dr. W. Dotson Wells, Fort Lauderdale, Florida, entitled "Treatment of Diverticula of the Female Urethra," was read by Dr. Carson, and was discussed by Dr. Rex E. Van Duzen, Dallas, Texas; Dr. J. Robert Rinker, Augusta, Georgia; and in closing by Dr. Carson.

Paper by Dr. Jo C. Alexander, Dr. Karl B. King and Dr. Foster Fuqua, Southwestern Medical School of the University of Texas, Dallas, Texas, entitled "A New Technic for Transvesical Surgery" (Motion Pictures), was read by Dr. Alexander, and was discussed by Dr. E. Halsell Fite, Muskogee, Oklahoma.

Dr. Oswald S. Lowsley, New York, New York, read a paper entitled "Melanoma of the Organs of the Urinary Tract with Particular Reference to the Prostate Gland" (Motion Pictures), which was discussed by Dr. Rudolph Bell, Thomasville, Georgia; Dr. Elmer Belt, Los Angeles, California; and in closing by the essayist.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. Robert Lich, Jr., Louisville, Kentucky.
Vice-Chairman—Dr. John F. Patton, St. Louis, Missouri.
Secretary—Dr. Harold P. McDonald, Atlanta, Georgia.

The Section then adjourned *sine die*.

SECTION ON PROCTOLOGY

Officers

Chairman—Dr. Rufus C. Alley, Lexington, Kentucky.
Vice-Chairman—Dr. Julius E. Linn, Birmingham, Alabama.
Secretary—Dr. Ronald F. Elkins, Springfield, Missouri.

Wednesday, November 15, 9:00 a.m.

The Section met in the Kiel Municipal Auditorium, Room 3-B, St. Louis, and was called to order by the Chairman, Dr. Rufus C. Alley, Lexington, Kentucky, who read his Chairman's Address entitled "Anorectal Pain: Modern Concepts of Mechanisms and Control."

The Chairman appointed the following Nominating Committee: Dr. Tom E. Smith, Chairman, Dallas, Texas; Dr. Don C. Robertson, Orlando, Florida; and Dr. Raymond L. Murdoch, Oklahoma City, Oklahoma.

Dr. Alpheus M. Phillips, Macon, Georgia, read a paper entitled "Oil Soluble Anesthetics in Proctology," which was discussed by Dr. Mark M. Marks, Kansas City, Missouri.

Dr. Garnet W. Ault, Professor of Proctology, Georgetown University School of Medicine, Washington, D. C., read a paper entitled "Recent Advances in Colon and Rectal Surgery" (Lantern Slides), which was discussed by Dr. Bertrand D. Coughlin, St. Louis, Missouri; Dr. Victor E. Scherman, St. Louis, Missouri; Dr. Mark M. Marks, Kansas City, Missouri; Dr. Robert A. Scarborough, San Francisco, California; and in closing by the essayist.

Dr. John G. Matt, Tulsa, Oklahoma, read a paper entitled "Treatment of Idiopathic Pruritus Ani with Adenosine-5 Monophosphate" (Lantern Slides), which was discussed by Dr. G. Lynn Krause, St. Louis, Missouri; Dr. Antonio Rottino, New York, New York; and in closing by the essayist.

Dr. Clifford C. Wilson, Kansas City, Missouri, read a paper entitled "Medical Management of Chronic Ulcerative Colitis" (Lantern Slides), which was discussed by Dr. Julius E. Linn, Birmingham, Alabama; and in closing by the essayist.

Dr. Tom E. Smith, Clinical Associate Professor of Proctology, Southwestern Medical School of the University of Texas, Dallas, Texas, read a paper entitled "The Role of Anesthesia in Postoperative Anorectal Pain" (Lantern Slides), which was discussed by Dr. Jacob Stolar, St. Louis, Missouri.

Paper by Dr. Orville C. Gass and Dr. Jack Adams, Chattanooga, Tennessee, entitled "Hemorrhoids: Etiology and Pathology" (Lantern Slides), was read by Dr. Adams, and was discussed by Dr. Charles C. Massey, Charlotte, North Carolina.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. Julius E. Linn, Birmingham, Alabama.
Vice-Chairman—Dr. A. M. Phillips, Macon, Georgia.
Secretary—Dr. Ronald F. Elkins, Springfield, Missouri.

The Nominating Committee recommended the following which was adopted by the Section: "That the incoming officers strive to increase attendance at the Section on Proctology and that the American Proctologic Society be informed of our desire to have all proctologists as our guests at the Dallas meeting of the Southern Medical Association in 1951; that these wishes be placed in all journals and medical periodicals; that the officers arrange a "get-togther" meeting for one night; and requested that the Section on Proctology have a two-day session at Dallas."

The Section then adjourned *sine die*.

SECTION ON OPHTHALMOLOGY AND OTOLARYNGOLOGY

Officers

Chairman—Dr. Alston Callahan, Birmingham, Alabama.
Chairman-Elect—Dr. Francis E. LeJeune, New Orleans, Louisiana.
Vice-Chairman—Dr. Edwin N. Broyles, Baltimore, Maryland.
Secretary—Dr. Edley H. Jones, Vicksburg, Mississippi.

Wednesday, November 15, 9:00 a.m.

The Section met in the Kiel Municipal Auditorium, Room 3-D, St. Louis, and was called to order by the Chairman-Elect, Dr. Francis E. LeJeune, who presided until the Chairman read his address. The Chairman then presided for the remainder of the session.

Paper by Dr. J. Mathews Robison, Professor and Head of Department of Otolaryngology, University of Texas School of Medicine (Galveston) and Associate Professor of Clinical Otolaryngology, Baylor University College of Medicine, Houston, Texas, and Dr. H. O. Nicholas, Associate Professor of Chemistry, Rice Institute, Houston, Texas, entitled "Catarrhal Otitis Media with Effusion" (Lantern Slides), was read by Dr. Robison.

Dr. Alston Callahan, Professor of Ophthalmology, Medical College of Alabama, Birmingham, Alabama, read his Chairman's Address, entitled "Cataract Extraction in the One-Eyed Patient: A Review of Seventy-Five Consecutive Cases" (Lantern Slides).

Dr. William D. Stinson, Associate Professor of Otolaryngology, University of Tennessee College of Medicine, Memphis, Tennessee, read a paper entitled "The Relative Importance of Chemotherapy, Antibiotics and Surgery in the Treatment of Mastoiditis."

Dr. Andrew W. McAlester, III, Kansas City, Missouri, read a paper entitled "A New Implant for the Correction of the Loss of Orbital Tissue" (Motion Pictures).

Dr. George S. McReynolds, Jr., Associate Professor of Otolaryngology, University of Texas Medical Branch, Galveston, Texas, read a paper entitled "Laryngeal Emergencies in Infants and Children" (Lantern Slides).

Dr. Robert Day, Wilmer Institute, Johns Hopkins Hospital, Baltimore, Maryland, read a paper entitled "The Problem of Diabetic Retinopathy" (Lantern Slides).

Dr. Herbert J. Rinkel, Kansas City, Missouri, read a paper entitled "Clinical Evaluation and Management of Allergic Patients" (Lantern Slides).

The Section then adjourned until 2:00 p.m. Wednesday.

Wednesday, November 15, 2:00 p.m.

The Section met in the Kiel Municipal Auditorium, Room 3-D, St. Louis, and was called to order by the Vice-Chairman, Dr. Edwin N. Broyles, Baltimore, Maryland, who presided.

Dr. James H. Allen, Professor of Ophthalmology, Tulane University School of Medicine, New Orleans, Louisiana, read a paper entitled "The Cyclodialysis Operation: A Simplified Technic" (Lantern Slides), which was discussed by Dr. G. Allen Lawrence, Jr., Nashville, Tennessee; and in closing by the essayist.

Dr. Henry L. Williams, Professor of Otolaryngology and Rhinology, Mayo Foundation Graduate School of Medicine, University of Minnesota, Rochester, Minnesota, read a paper entitled "Treatment of Headaches Commonly Seen in Ear, Nose and Throat Practice" (Lantern Slides).

Dr. J. Wesley McKinney, Associate Professor of Ophthalmology, University of Tennessee College of Medicine, Memphis, Tennessee, read a paper entitled "The Management of Retinal Detachment."

Dr. Ralph H. Riggs, Shreveport, Louisiana, read a paper entitled "The Saddle Nose" (Lantern Slides).

Dr. Harvey Searcy, Tuscaloosa, Alabama, exhibited certain instruments and their use.

A motion was made which was passed unanimously to send a telegram to Dr. Edley H. Jones, Vicksburg, Mississippi, Secretary, expressing the regret of the Section at his inability to attend the meeting.

Dr. Charles T. Moran, Assistant Clinical Professor of Ophthalmology, University of Louisville School of Medicine, Louisville, Kentucky, read a paper entitled "The Management of Vertical Deviations" (Lantern Slides).

The Chairman appointed the following Nominating Committee: Dr. John J. Shea, Chairman, Memphis, Tennessee; Dr. Murdock Equen, Atlanta, Georgia; and Dr. F. A. Holden, Baltimore, Maryland.

Dr. William C. Warren, Jr., Professor of Otorhinolaryngology, Emory University School of Medicine, Atlanta, Georgia, read a paper entitled "Practical Therapeutics in Otolaryngology" (Lantern Slides), which was discussed by Dr. J. Mathews Robison, Houston, Texas.

Dr. G. Allen Lawrence, Jr., Department of Ophthalmology, Vanderbilt University School of Medicine, Nashville, Tennessee, read a paper entitled "The Value of ACTH and Cortisone in Ocular Inflammations: A Preliminary Report" (Lantern Slides), which was discussed by Dr. Albert E. Meisenbach, Jr., Dallas, Texas; and in closing by the essayist.

The Section then adjourned until 9:00 a.m. Thursday.

Thursday, November 16, 9:00 a.m.

The Section met in the Kiel Municipal Auditorium, Room 3-D, St. Louis, and was called to order by the Chairman, Dr. Alston Callahan, who presided.

Dr. George B. Trible, Washington, D. C., read a paper entitled "Meniere's Symptom-Complex: Its Importance Today."

Dr. Derrick Vail, Professor of Ophthalmology, Northwestern University Medical School, Chicago, Illinois, read a paper entitled "The Ocular Complications of Arthritis" (Lantern Slides).

Dr. Lyle M. Sellers, Clinical Associate Professor of Otolaryngology, Southwestern Medical School of the University of Texas, Dallas, read a paper entitled "The Common Cold: What to Do About It."

Dr. Welborn W. Sanger, Oklahoma City, Oklahoma, read a paper entitled "Treatment of Lateral Eye Deviations."

Dr. Francis H. McGovern, Danville, Virginia, read a paper entitled "Herpes Laryngis."

Dr. Ralph S. McLaughlin, Charleston, West Virginia, read a paper entitled "The Treatment of Chemical Eye Injuries" (Lantern Slides).

Paper by Dr. J. Brown Farrior and Dr. Richard A. Bagby, Tampa, Florida, entitled "Cancer of the Head and Neck" (Lantern Slides), was read by Dr. Farrior.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. Francis E. LeJeune, New Orleans, Louisiana.
Chairman-Elect—*Dr. Oscar Wilkinson, Washington, D. C.
Vice-Chairman—Dr. V. R. Hurst, Longview, Texas.
Secretary—Dr. Edley H. Jones, Vicksburg, Mississippi.

The Section then adjourned *sine die*.

ASSOCIATION FOR RESEARCH IN OPHTHALMOLOGY

Southern Section

Wednesday, November 15, 7:00 p.m.

The Association for Research in Ophthalmology, Southern Section, met at a Joint Dinner Meeting with the Section on Ophthalmology and Otolaryngology of the Southern Medical Association at the Jefferson Hotel, Private Dining Room No. 8, St. Louis, Dr. Alston Callahan, Secretary, Birmingham, Alabama, presiding.

The following presentations were made:

"The Effect of Cortisone and ACTH on Corneal Dystrophy and Related Conditions," Dr. John M. Fulmer, Dr. Thomas O. Paul, Dr. Charles P. Grant and Dr. Alston Callahan, Department of Ophthalmology, Medical College of Alabama, Birmingham, Alabama.

"The Effects on the Eyes of Microwaves: A Preliminary Report," Dr. T. E. Sanders, Assistant Professor of Clinical Ophthalmology, Washington University School of Medicine, Dr. A. W. Stickle, Jr., and Dr. W. A. Moor, St. Louis, Missouri.

"Amebiasis and Uveitis," Dr. Leon Hart, Veterans Administration Hospital, New Orleans, Louisiana.

THE EAR, NOSE AND THROAT CLUB OF ST. LOUIS

Officers

Chairman—Dr. Bernard J. McMahon, St. Louis, Missouri.
Secretary-Treasurer—Dr. Harry N. Glick, St. Louis, Missouri.

Thursday, November 16, 2:00 p.m.

The Ear, Nose and Throat Club of St. Louis met conjointly with the Section on Ophthalmology and Otolaryngology of the Southern Medical Association at the Jefferson Hotel, Crystal Room, St. Louis, presenting a "Symposium on Unsolved Problems in Otolaryngology." The Chairman, Dr. Bernard J. McMahon, Clinical Professor of Otolaryngology and Director of Department of Otolaryngology, St. Louis University School of Medicine, St. Louis, gave the introductory remarks.

"Physiology," Dr. Arthur W. Proetz, Professor of Clinical Otolaryngology, Washington University School of Medicine, St. Louis.

"Anatomic Pathways in Fenestration Surgery," Dr. Harry N. Glick, Assistant Professor of Clinical Otolaryngology, Washington University School of Medicine, and Secretary-Treasurer, The Ear, Nose and Throat Club of St. Louis.

"The Use of Histamine," Dr. French K. Hansel, Associate Professor of Clinical Otolaryngology, Washington University School of Medicine, St. Louis.

"Larynx," Dr. William B. Harkins, Assistant Clinical Professor of Otolaryngology, St. Louis University School of Medicine, St. Louis.

Dr. Millard F. Arbuckle, Assistant Professor of Clinical Otolaryngology, Washington University School of Medicine, St. Louis, read a paper entitled "Irradiation Treatment of Cancer of the Larynx," which was discussed by Dr. Wendell G. Scott, St. Louis.

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*Dr. Wilkinson died December 16, 1950.

ST. LOUIS OPHTHALMIC SOCIETY

Officers

President—Dr. Joseph M. Keller, St. Louis, Missouri.
Vice-President—Dr. William H. Meinberg, St. Louis, Missouri.
Secretary—Dr. Benjamin Milder, St. Louis, Missouri.
Treasurer—Dr. Albert G. Boldizar, St. Louis, Missouri.

Thursday, November 16, 8:00 p.m.

The St. Louis Ophthalmic Society met in the Elliott Auditorium of the Oscar Johnson Institute, St. Louis, and the following presentations were made:

"The Role of Hyperpyrexia in the Management of Eye Disease," Dr. Bennett Y. Alvis, Associate Professor of Clinical Ophthalmology, Washington University School of Medicine, St. Louis, Missouri.

"The Treatment of Ocular Syphilis," Dr. Leslie C. Drews, Associate Professor of Ophthalmology, St. Louis University School of Medicine, and Dr. Gerald Barton, St. Louis, Missouri.

"Hyperphoria: Its Evaluation and Management," Dr. Richard G. Scobee, Assistant Professor of Ophthalmology, Washington School of Medicine, St. Louis, Missouri.

Physicians in attendance upon the Section on Ophthalmology and Otolaryngology of the Southern Medical Association were cordially invited to this meeting.

SECTION ON ANESTHESIOLOGY

Officers

Chairman—Dr. Perry P. Volpitto, Augusta, Georgia.
Vice-Chairman—Dr. Ralph S. Sappenfield, Miami, Florida.
Secretary—Dr. David A. Davis, Augusta, Georgia.

Thursday, November 16, 9:00 a.m.

The Section met in the Kiel Municipal Auditorium, Opera House Foyer, St. Louis, and was called to order by the Chairman, Dr. Perry P. Volpitto, Augusta, Georgia, who presided.

The Chairman appointed the following Nominating Committee: Dr. John Adriani, Chairman, New Orleans, Louisiana; Dr. Fred E. Woodson, Tulsa, Oklahoma; and Dr. Donald Stubbs, Alexandria, Virginia.

PANEL DISCUSSION ON FLUID BALANCE IN SHOCK

Dr. Donald H. Stubbs, Clinical Professor of Anesthesiology, George Washington University School of Medicine, Washington, D. C., read a paper entitled "Basic Physiology and Clinical Diagnosis" (Lantern Slides).

Dr. J. Ross Veal, Associate Professor of Surgery, Georgetown University School of Medicine, Washington, D. C., read a paper entitled "Arterial Versus Venous Transfusions."

Dr. Robert Elman, Professor of Clinical Surgery, Washington University School of Medicine, St. Louis, Missouri, read a paper entitled "The Use of Electrolytes and Blood Substitutes."

The following participated in the Panel Discussion: Dr. Perry P. Volpitto, Augusta, Georgia; Dr. Donald H. Stubbs, Washington, D. C.; Dr. Fred E. Woodson, Tulsa, Oklahoma; Dr. J. Ross Veal, Washington, D. C.; Dr. David C. Eiland, Munday, Texas; and Dr. Robert Elman, St. Louis, Missouri.

PANEL DISCUSSION ON THE DIAGNOSIS AND MANAGEMENT OF COMA

Dr. Roscoe L. Pullen, Professor of Graduate Medicine, Tulane University School of Medicine, New Orleans, Louisiana, read a paper entitled "The Differential Diagnosis of Coma."

Dr. John Adriani, Director of Anesthesia, Charity Hospital, New Orleans, Louisiana, read a paper entitled "The Management of the Comatose Patient."

The following participated in the Panel Discussion: Dr. Perry P. Volpitto, Augusta, Georgia; Dr. John Adriani, New Orleans, Louisiana; and Dr. Donald H. Stubbs, Washington, D. C.

Dr. R. M. S. Barrett, Clayton, Missouri, made a motion which was put to a vote and carried that the Section on Anesthesiology at the next session have a meeting combined or in conjunction with the general surgical group if it can be arranged through the Council of the Southern Medical Association.

The following officers were duly elected by vote of the Section:

Chairman—Dr. David A. Davis, Augusta, Georgia.
Vice-Chairman—Dr. R. M. S. Barrett, Clayton, Missouri.
Secretary—Dr. Albert J. Ochsner, II, New Orleans, Louisiana.

The Section then adjourned *sine die*.

SECTION ON MEDICAL EDUCATION AND HOSPITAL TRAINING

Officers

Chairman—Dr. Joseph E. Markee, Durham, North Carolina.
Vice-Chairman—Dr. W. T. Sanger, Richmond, Virginia.
Secretary—Dr. Trawick H. Stubbs, Columbia, Missouri.

Thursday, November 16, 2:00 p.m.

The Section met in the Kiel Municipal Auditorium, Room B, St. Louis, and was called to order by the Chairman, Dr. Joseph E. Markee, Professor of Anatomy and Chairman of Department, Duke University School of Medicine, Durham, North Carolina, who read his Chairman's Address entitled "Visual Aids for Medical Teaching at a Reasonable Cost" (Lantern Slides).

The Chairman appointed the following Nominating Committee: Dr. Richard Hugh Wood, Chairman, Emory University, Georgia; Dr. W. Reece Berryhill, Chapel Hill, North Carolina; and Dr. Robert A. Moore, St. Louis, Missouri.

Dr. Hardy A. Kemp, Director of Graduate Studies, Baylor University College of Medicine, Houston, Texas, read a paper entitled "The Teaching of Social Medicine: Who Will Bell the Cat," which was discussed by Dr. W. T. Sanger, President, Medical College of Virginia, Richmond, Virginia; Dr. Richard Hugh Wood, Dean, Emory University School of Medicine, Emory University, Georgia; and in closing by the essayist.

Dr. W. Reece Berryhill, Dean, University of North Carolina School of Medicine, Chapel Hill, North Carolina, read a paper entitled "The Regional Significance of the Development of the Four-Year Medical School at the University of North Carolina," which was discussed by Dr. D. S. Pankratz, Dean, University of Mississippi School of Medicine, University, Mississippi.

Dr. John O. Boyd, Jr., Chairman, Education Committee, Virginia Academy of General Practice, Roanoke, Virginia, read a paper entitled "Education in General Practice," which was discussed by Dr. John R. Bender, Winston-Salem, North Carolina; Dr. Hardy A. Kemp, Houston, Texas; Dr. Richard Hugh Wood, Emory University, Georgia; and in closing by the essayist.

Dr. Trawick H. Stubbs, Dean, Faculty of Medicine, University of Missouri School of Medicine, Columbia, Missouri, read a paper entitled "The Two-Year School in Modern Medical Education," which was discussed by Dr. Robert A. Moore, Dean, Washington University School of Medicine, St. Louis, Missouri; and in closing by the essayist.

Dr. Melvin A. Casberg, Dean, St. Louis University School of Medicine, St. Louis, Missouri; and Member, Joint Committee on Medical Education in Time of National Emergency, American Medical Association and American Association of Medical Colleges, read a paper entitled "Medical Education in Time of National Emergency," which was discussed by Dr. Robert A. Moore, St. Louis, Missouri.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. W. T. Sanger, Richmond, Virginia.
Vice-Chairman—Dr. Trawick H. Stubbs, Columbia, Missouri.
Secretary—Dr. David S. Pankratz, University, Mississippi.

The Section then adjourned *sine die*.

SECTION ON PUBLIC HEALTH

Officers

Chairman—Dr. T. F. Sellers, Atlanta, Georgia.
Vice-Chairman—Dr. L. M. Graves, Memphis, Tennessee.
Secretary—Dr. Waldo L. Treuting, New Orleans, Louisiana.

Thursday, November 16, 2:00 p.m.

The Section met in the Kiel Municipal Auditorium, Opera House Foyer, St. Louis, and was called to order by the Chairman, Dr. T. F. Sellers, Director, Georgia Department of Public Health, Atlanta, Georgia, who read his Chairman's Address entitled "The Relation of Public Health to Medical Practice."

The Chairman appointed the following Nominating Committee: Dr. C. D. Bowdoin, Chairman, Atlanta, Georgia; Dr. Harry H. Hudson, Nashville, Tennessee; and Dr. L. Minor Blackford, Atlanta, Georgia.

Dr. N. H. Dyer, State Director of Health, West Virginia State Department of Health, Charleston, West Virginia, read a paper entitled "Cooperation Between Organized Medicine and Public Health," which was discussed by Dr. Thomas G. Hull, Chicago, Illinois.

Dr. Harry H. Hudson, Director, Industrial Hygiene Service, Tennessee Department of Public Health, Nashville, Tennessee, read a paper entitled "Industrial Hygiene in a Public Health Program" (Lantern Slides), which was discussed by Dr. T. F. Sellers, Atlanta, Georgia.

Dr. C. D. Bowdoin, Director, Division of Venereal Disease Control, Georgia Department of Public Health, Atlanta, Georgia, read a paper entitled "The Georgia Plan of Multiphase Testing," which was discussed by Dr. T. F. Sellers, Atlanta, Georgia.

Dr. L. Minor Blackford, Atlanta, Georgia, read a paper entitled "Certain Public Health Aspects of Heart Disease" which was discussed by Dr. Hanford Phillips, St. Louis, Missouri; Dr. C. D. Bowdoin, Atlanta, Georgia; Dr. N. H. Dyer, Charleston, West Virginia; and in closing by the essayist.

Dr. Malcolm J. Ford, Director, Division of Nutrition and Diabetes Control, Florida State Board of Health; and Senior Surgeon, U. S. Public Health Service, Jacksonville, Florida, read a paper entitled "Undetected Diabetes Among Relatives of Diabetics: An Epidemiological Note" (Lantern Slides), which was discussed by Dr. T. F. Sellers, Atlanta, Georgia; and Dr. C. D. Bowdoin, Atlanta, Georgia.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. James W. Bass, Dallas, Texas.
Vice-Chairman—Dr. Newman H. Dyer, Charleston, West Virginia.
Secretary—Dr. Waldo L. Treuting, New Orleans, Louisiana.

The Section then adjourned *sine die*.

AMERICAN COLLEGE OF CHEST PHYSICIANS
Southern Chapter

Meeting conjointly with Southern Medical Association

Officers

President—Dr. David H. Waterman, Knoxville, Tennessee.
First Vice-President—Dr. M. Jay Flipse, Miami, Florida.
Second Vice-President—Dr. Hollis E. Johnson, Nashville, Tennessee.
Secretary-Treasurer—Dr. George R. Hodell, Houston, Texas.

Sunday, November 12, 2:00 p.m.

The American College of Chest Physicians, Southern Chapter, met at the Statler Hotel, St. Louis, Dr. Hollis E. Johnson, Nashville, Tennessee, Chairman, Medical Section, presiding.

Dr. Alvis E. Greer, Professor of Clinical Medicine, Baylor University College of Medicine, Houston, Texas, read a paper entitled "Some Interesting Chest Conditions" (Lantern Slides).

Dr. Edward F. Parker, Assistant Professor of Surgery, Medical College of the State of South Carolina, Charleston, South Carolina, read a paper entitled "Hemoptysis."

Dr. Philip Morgenstern, Chief of Medical Service, Veterans Administration Hospital, Swannanoa, North Carolina, read a paper entitled "Pitfalls in the Diagnosis of Nontuberculous Chest Diseases" (Lantern Slides).

Dr. Martin M. Cummings, Instructor in Medicine, Emory University School of Medicine, and Chief of Tuberculosis Section, Lawson Veterans Administrative Hospital, Atlanta, Georgia, read a paper entitled "Bacteriological Diagnosis in Tuberculosis" (Lantern Slides).

A social hour was held at the Statler Hotel, followed by the President's Banquet at 7:30 p.m., Dr. Duane Carr, Memphis, Tennessee, Toastmaster. An address was given by Dr. David H. Waterman, President, Southern Chapter, American College of Chest Physicians, Knoxville, Tennessee, entitled "New Salvage Methods" (Motion Pictures). An X-Ray Conference, Dr. Alfred Goldman, St. Louis, Moderator, concluded the evening program.

Monday, November 13, 9:00 a.m.

The American College of Chest Physicians, Southern Chapter, met at the Statler Hotel, St. Louis, Dr. Otto C. Brantigan, Baltimore, Maryland, Chairman, Surgical Section presiding.

Dr. Bert H. Cotton, Thoracic Surgeon, Pasadena, California, read a paper entitled "Surgical Treatment of Coccidioidosis and Other Fungus Infection of the Lungs" (Lantern Slides).

Dr. J. Gordon Strance, Attending Specialist in Thoracic Surgery, Veterans Administration Hospital, Albuquerque, New Mexico, read a paper entitled "Lucite Sphere Plombage in the Treatment of Pulmonary Tuberculosis" (Lantern Slides), which was discussed by Dr. David A. Wilson, Greenville, South Carolina.

Dr. Charles P. Bailey, Professor and Head of Department of Thoracic Surgery, Hahnemann Medical College, Philadelphia, Pennsylvania, read a paper entitled "Valvular Surgery of the Heart" (Lantern Slides).

Dr. Osler A. Abbott, Assistant Professor of Clinical Surgery, Emory University School of Medicine, Atlanta, Georgia, read a paper entitled "The Surgical Treatment of Asthma, Emphysema, Bullae and Blebs" (Lantern Slides and Motion Pictures).

Monday, November 13, 12:30 p.m.

At a luncheon meeting at the Statler Hotel, Dr. David H. Waterman, Knoxville, Tennessee, President, Southern Chapter, presiding, an address was given by Dr. Evarts A. Graham, Bixby Professor of Surgery, Washington University School of Medicine, St. Louis, Missouri.

At a business meeting, which concluded the program, the following officers were elected:

President—Dr. M. Jay Flipse, Miami, Florida.
First Vice-President—Dr. Hollis E. Johnson, Nashville, Tennessee.
Second Vice-President and Chairman of Program Committee—Dr. Duane Carr, Memphis, Tennessee.
Secretary-Treasurer—Dr. George R. Hodell, Houston, Texas.

COLLEGE OF AMERICAN PATHOLOGISTS
Southeastern and South Central Sections

Meeting conjointly with Section on Pathology of the Southern Medical Association

Wednesday, November 15, 6:30 p.m.

College of American Pathologists, Southeastern and South Central Sections, and the Section on Pathology of the Southern Medical Association met for a Joint Dinner Meeting at the Jefferson Hotel, Crystal Room, St. Louis, Dr. Douglas H. Sprunt, Memphis, Tennessee, presiding.

Dr. Robert A. Moore, Dean and Edward Mallinckrodt Professor of Pathology, Washington University School of Medicine, and Secretary of American Board of Pathology, St. Louis, Missouri, read a paper entitled "Trends in Pathology."

Thursday, November 16, 9:15 a.m.

College of American Pathologists, Southeastern and South Central Sections, met at the Kiel Municipal Auditorium, Room 3-D, St. Louis, Dr. Merlin L. Trumbull, Memphis, Tennessee, presiding.

Paper by Dr. S. H. Gray (deceased), formerly Director of Laboratories and Research of Jewish Hospital; Dr. Fred P. Handler, Assistant City Pathologist, Snodgras Laboratory of St. Louis City Hospital, and Dr. Herman T. Blumenthal, Associate Professor of Pathology, St. Louis University School of Medicine, St. Louis, Missouri, entitled "A Comparison of Aging Processes in

the Human Pulmonary Artery and Aorta" (Lantern Slides), was read by Dr. Blumenthal.

Dr. Lemuel W. Diggs, Professor of Medicine, University of Tennessee College of Medicine, Memphis, Tennessee, read a paper entitled "Diagnosis of Sickle Cell Anemia" (Lantern Slides).

Dr. Roger D. Baker, Professor of Pathology, Medical College of Alabama, Birmingham, Alabama, read a paper entitled "The Histopathologic Diagnosis of Mycotic Diseases."

Dr. J. W. Kernohan, Director of Section on Pathologic Anatomy and Neuropathology, Mayo Clinic, Rochester, Minnesota, read a paper entitled "Classification of Brain Tumors in Relationship to Their Prognosis" (Lantern Slides).

Thursday, November 16, 2:00 p.m.

College of American Pathologists, Southeastern and South Central Sections, met at the Kiel Municipal Auditorium, Room 3-D, St. Louis, Dr. John A. Saxton, Jr., St. Louis, Missouri, presiding.

Dr. Frank W. Konzelmann, Pathologist, Emergency Hospital Washington, D. C., read a paper entitled "The Professional Relations of the Clinical Pathologist in Medical Practice."

Paper by Dr. Fred P. Handler, Assistant City Pathologist, Snodgras Laboratory of St. Louis City Hospital, and Dr. J. Owen Blache, Director of Laboratories, Homer G. Phillip Hospital, and Instructor in Pathology, Washington University School of Medicine, St. Louis, Missouri, read a paper entitled "Renal Artery Arteriosclerosis in the Negro and Its Relation to Hypertension" (Lantern Slides), was read by Dr. Handler.

Dr. C. Howard Hatcher, Division of Orthopedic Surgery, University of Chicago School of Medicine, Chicago, Illinois, read a paper entitled "Some Problems in the Diagnosis of Sarcoma of Bone" (Lantern Slides).

Dr. Henry Pinkerton, Professor of Pathology, St. Louis University School of Medicine, St. Louis, Missouri, read a paper entitled "The Morphology of Vital Inclusions and Their Practical Importance in the Diagnosis of Human Disease" (Lantern Slides).

There was a good attendance at both the morning and afternoon sessions.

WOMAN'S AUXILIARY TO THE SOUTHERN MEDICAL ASSOCIATION

Officers

President—Mrs. Robert C. Haynes, Marshall, Missouri.
President-Elect—Mrs. L. S. Thompson, Dallas, Texas.
First Vice-President—Mrs. V. Eugene Holcombe, Charleston, West Virginia.
Second Vice-President—Mrs. A. L. O'Briant, Raeford, North Carolina.
Recording Secretary—Mrs. Stanley A. Hill, Corinth, Mississippi.
Corresponding Secretary—Mrs. W. E. Martin, Odessa, Missouri.
Treasurer—Mrs. James A. Ryan, Covington, Kentucky.
Historian—Mrs. R. F. Stover, Miami, Florida.
Parliamentarian—Mrs. Joseph W. Kelso, Oklahoma City, Oklahoma.
Chairmen of Standing Committees—
Budget—Mrs. E. Latane Flanagan (deceased), Richmond, Virginia.
Custodian of Records—Mrs. William W. Potter, Knoxville, Tennessee.
Doctor's Day—Mrs. Neil W. Woodward, Oklahoma City, Oklahoma.
Jane Todd Crawford Fund—Mrs. J. Ullman Reaves, Mobile, Alabama.
Memorial—Mrs. M. Pinson Neal, Columbia, Missouri.
Research and Romance of Medicine—Mrs. David F. Adcock, Columbia, South Carolina.
Resolutions—Mrs. Richard H. Clark, Hattiesburg, Mississippi.
Revisions—Mrs. L. M. Jenkins, Miami, Florida.

The twenty-sixth annual meeting of the Woman's Auxiliary to the Southern Medical Association was held in St. Louis, November 14-16, with the Jefferson Hotel as headquarters.

Tuesday, November 14, 8:00 a.m.

The Executive Board met for breakfast at the Jefferson Hotel, Committee Room 2, the President, Mrs. Robert C. Haynes, presiding. There were thirty present.

Mrs. A. L. O'Briant, Second Vice-President, Woman's Auxiliary to the Southern Medical Association, Raeford, North Carolina, gave the invocation.

Mrs. Robert C. Haynes brought greetings and introduced Mrs. A. A. Herold, President, Woman's Auxiliary to the American Medical Association and Past President, Woman's Auxiliary to the Southern Medical Association, Shreveport, Louisiana; Mrs. Dwight Van Del, President, Woman's Auxiliary to Missouri State Medical Association, Kansas City, Missouri; Mrs. C. V. Wilcox, President, Auxiliary to the St. Louis Medical Society and Chairman, Committee for Visiting Ladies, St. Louis; Mrs. Hamilton W. McKay, Charlotte, North Carolina; Dr. Hamilton W. McKay, President, Southern Medical Association, Charlotte, North Carolina; and Mr. C. P. Loranz, Secretary-Manager, Southern Medical Association. Dr. McKay and Mr. Loranz brought greetings.

The Post-Convention Board minutes of the Cincinnati meeting were read and approved.

Mrs. James A. Ryan, Treasurer, Covington, Kentucky, gave the following report: Total receipts in general fund $240.59; Jane Todd Crawford Fund $1,004.71; and U. S. Savings Bonds (present value) $2,145.90.

The President appointed the following committees—Reading: Mrs. E. W. Jackson, Chairman, Paducah, Kentucky; Mrs. James F. McMurry, Sentinel, Oklahoma; Mrs. W. W. Potter, Knoxville, Tennessee. Auditing: Mrs. Louis K. Hundley, Pine Bluff, Arkansas; and Mrs. Harvey F. Garrison, Sr., Jackson, Mississippi. Doctor's Day: Mrs. Neil W. Woodward, Chairman, Oklahoma City, Oklahoma; Mrs. V. Eugene Holcombe, Charleston, West Virginia; and Mrs. Olin S. Cofer, Atlanta, Georgia.

It was voted to rescind the motion at the Pre-Convention Executive Board meeting in Cincinnati "That the Custodian of Records be appointed for a period of five years and that the records from the Filson Club be placed with the Custodian," and the records will remain for safe keeping in a metal box at the Filson Club, Louisville, which is a fireproof building.

It was moved and carried that the Executive Board recommend to the Woman's Auxiliary to the Southern Medical Association the rescinding of the action taken by the Auxiliary in Cincinnati to use the sum of one thousand dollars to be spent by the Jane Todd Crawford Committee to furnish a room in the Dr. Ephriam McDowell home in Danville, Kentucky; and further moved and carried that the Auxiliary buy with this sum the dining room table and chairs now located in the McDowell home and give them to the home in memory of Jane Todd Crawford; and that suitable markers designating that fact be attached to said table and chairs.

Mrs. E. Latane Flanagan, Budget Chairman, Richmond, Virginia, having passed away September 10, the Treasurer, Mrs. James A. Ryan, presented a budget which was adopted: Jane Todd Crawford Memorial Scholarship Loan Fund $5.00, Research and Romance of Medicine $10.00, Doctor's Day $25.00, Memorial $15.00, Revisions $10.00, President $300.00, Miscellaneous $85.00 and Reserve Fund $50.00, a total of $500.00.

It was moved and carried that a President's pin, designed by Mrs. George D. Feldner of New Orleans, Councilor from Louisiana, be approved and definite action taken on the securing of it at the Post-Convention Executive Board meeting.

It was moved and carried that letters of sympathy be sent to Dr. E. Latane Flanagan, in the loss of his wife, and to Mrs. Hugh Leslie Moore, in the loss of her husband.

Upon motion made and carried the reading of the proposed Constitution and By-Laws was dispensed with, and it was recommended the Constitution be adopted as amended. The By-Laws were amended through Article IV, Section III, but due to lack of time, it was moved and carried that the By-Laws be carried over to the General Session of the Auxiliary.

The following Nominating Committee was elected: Mrs. Wilbur M. Salter, Chairman, Anniston, Alabama; Mrs. Harvey F. Garrison, Sr., Jackson, Mississippi; Mrs. Louis K. Hundley, Pine Bluff, Arkansas; Mrs. Warren E. Massey, Dallas, Texas; and Mrs. L. W. Williams, Savannah, Georgia.

The meeting adjourned.

Tuesday, November 14, 10:00 a.m.

The Auxiliary met in the Jefferson Hotel, Crystal Room, and was called to order by the President, Mrs. Robert C. Haynes, who presided.

The Reverend Erich E. Leidner, St. Louis, Missouri, gave the invocation.

Addresses of welcome were given by Mrs. C. V. Wilcox, President, Woman's Auxiliary to the St. Louis Medical Society and Chairman of Ladies Entertainment Committee, St. Louis; and Mrs. Dwight Van Del, President, Woman's Auxiliary to Missouri State Medical Association, Kansas City, Missouri. Mrs. Waverly R. Payne, Councilor for Virginia, Hampton, Virginia, responded to the addresses of welcome.

Dr. Elmer L. Henderson, President, American Medical Association and Past President, Southern Medical Association, Louisville, brought an inspiring message on socialized medicine and state socialism, indicating that the profession needs the Auxiliary and expects its cooperation in this cause.

The President presented Mrs. Arthur A. Herold, President, Woman's Auxiliary to the American Medical Association, and Past President, Woman's Auxiliary to the Southern Medical Association, Shreveport, Louisiana; Mrs. L. S. Thompson, President-Elect, Woman's Auxiliary to the Southern Medical Association, Dallas, Texas: Mrs. V. Eugene Holcombe, Past President, Woman's Auxiliary to the American Medical Association, and First Vice-President, Woman's Auxiliary to the Southern Medical Association, Charleston, West Virginia; and Mrs. Dwight Van Del, President, Woman's Auxiliary to the Missouri State Medical Association, Kansas City, Missouri. And the Officers, Chairmen of Standing Committees and Past Presidents of the Woman's Auxiliary to the Southern Medical Association were also recognized.

Mrs. Bernard T. Koon, Chairman of the Pages, St. Louis, presented the Pages: Misses Marie Tjoflat, Jane Merz, and Anita Signorelli, all of St. Louis.

Telegrams from the following were read: Mrs. W. W. Potter, Past President and Custodian of Records, Woman's Auxiliary to the Southern Medical Association, Knoxville, Tennessee; Mrs. C. M. McCoy, President, Woman's Auxiliary to the Medical Society of Virginia; Mrs. John Pierpont Helmick, Past President, Woman's Auxiliary to the Southern Medical Association, Fairmont, West Virginia; and Mrs. James F. McMurray, President, Woman's Auxiliary to the Oklahoma State Medical Association, Sentinel, Oklahoma.

The President expressed in her report appreciation, particularly to the Councilors, her Advisory Board, and members of her Executive Board, for their cooperation during the year; and the body stood in recognition of her achievements.

Reports of the officers and committee chairmen were read and approved.

The Treasurer gave her report.

The Historian's report revealed that all states observed Doctor's Day: thirteen states participated in Research and Romance of Medicine; and ten states contributed to the Jane Todd Crawford Fund; and that there are now within the territory of the Southern Medical Association 381 auxiliaries with a membership of 15,939.

The Doctor's Day Chairman announced the following awards: first prize $10.00 (Louisiana—outstanding Parishes, Baton Rouge and Calaseieu); second prize $5.00 (Kentucky); and Honorable Mention: Arkansas and North Carolina. Report and recommendations of the Doctor's Day Chairman were accepted.

The budget for 1950-51, recommended by the Executive Board, was accepted.

Memorial Service was conducted by Mrs. M. Pinson Neal, Past President, Woman's Auxiliary to the Southern Medical Association, Columbia, Missouri.

The meeting then adjourned.

Wednesday, November 15, 9:30 a.m.

The Auxiliary met in the Jefferson Hotel, Crystal Room, the President, Mrs. Robert C. Haynes, presiding.

Mrs. John W. Turner, Councilor for Georgia, Atlanta, gave the invocation.

The minutes of the Cincinnati meeting were approved as printed in the SOUTHERN MEDICAL JOURNAL (April 1950). The minutes of the General Session, November 14, 1950 were read and approved.

Mrs. L. M. Jenkins, Revisions Chairman, Miami, Florida, read the Constitution in its entirety and upon motion made and carried it was accepted as presented by the Executive Board, and the By-Laws were referred to the new administration to be brought before the 1951 Auxiliary meeting.

Reports of the State Councilors were read and filed.

Motion was made and carried that a telegram be sent to Mrs. U. G. McClure, Councilor for West Virginia, Charleston, who because of ill health was unable to be present.

Mrs. DeWitt T. Milam, President, Woman's Auxiliary to the Louisiana State Medical Society, Monroe, was commended upon her fine detailed report of the convention of the Woman's Auxiliary to the American Medical Association in San Francisco in June 1950.

A moment of silent recognition was paid to the memory of the late Mrs. S. C. Red, Dallas, Texas, who served as the first president of the Woman's Auxiliary to the American Medical Association.

In the absence of the Doctor's Day Chairman, Mrs. Ryan, Treasurer, presented the awards as announced at the Tuesday session.

Mrs. Richard H. Clark, Past President, Woman's Auxiliary to the Southern Medical Association, Hattiesburg, Mississippi, read the Courtesy Resolutions which were adopted.

Mrs. Louis K. Hundley, Chairman, Auditing Committee, Pine Bluff, Arkansas, reported that the Treasurer's books were found to be correct.

Mrs. C. V. Wilcox, General Chairman, Committee on Ladies Entertainment, St. Louis, announced a total registration of 198.

Moved and carried that a telegram be sent to Dr. Seale Harris, Birmingham, Alabama, congratulating him upon the recognition he had received on his book "Woman's Surgeon" and expressing the regret of the Auxiliary at his inability to be present.

Recommendations from the Executive Board were read and approved.

Mrs. William M. Salter, Chairman of the Nominating Committee, Anniston, Alabama, presented the following report, the nominees being duly elected and installed by Mrs. F. F. Kirby, Past President, Woman's Auxiliary to the State Medical Association of Texas, Waco:

President—Mrs. L. S. Thompson, Dallas, Texas.
President-Elect—Mrs. V. Eugene Holcombe, Charleston, West Virginia.
First Vice-President—Mrs. Neil W. Woodward, Oklahoma City, Oklahoma.
Second Vice-President—Mrs. W. W. Crawford, Hattiesburg, Mississippi.
Recording Secretary—Mrs. Louis K. Hundley, Pine Bluff, Arkansas.
Corresponding Secretary—Mrs. Warren E. Massey, Dallas, Texas.
Treasurer—Mrs. L. M. Jenkins, Miami, Florida.
Historian—Mrs. A. L. O'Briant, Raeford, North Carolina.
Parliamentarian—Mrs. Robert C. Haynes, Marshall, Missouri.

Mrs. Robert C. Haynes, retiring President, presented the gavel to the incoming President, Mrs. L. S. Thompson, Dallas, Texas.

Mrs. Herold commended Mrs. Haynes upon her successful year as President, having observed in many states her appearance as guest and the honor she brought to the Southern Medical Auxiliary. A rising vote of thinks was extended to Mrs. Haynes.

Mrs. Thompson urged each member to reaffirm her efforts in promoting the aims and the objectives of the Auxiliary. She extended a cordial invitation to attend the twenty-seventh annual convention which will convene in Dallas in 1951.

The meeting adjourned.

Wednesday, November 16, 1:00 p.m.

The Auxiliary met for its twenty-sixth annual luncheon at the Jefferson Hotel, Ivory Room, St. Louis, the President, Mrs. Robert C. Haynes, presiding.

Mrs. Joseph W. Kelso, Past President, Woman's Auxiliary to the Southern Medical Association, Oklahoma City, Oklahoma, gave the invocation.

Recognition was given to Mrs. L. S. Thompson, President 1950-51, Woman's Auxiliary to the Southern Medical Association, Dallas, Texas; and also to distinguished guests, state presidents, councilors and past presidents.

Mrs. A. A. Herold, President, Woman's Auxiliary to the American Medical Association, gave an address on "By-Standers Are Not Innocent."

Dr. Jere L. Crook, a Past President of the Southern Medical

the Human Pulmonary Artery and Aorta" (Lantern Slides), was read by Dr. Blumenthal.

Dr. Lemuel W. Diggs, Professor of Medicine, University of Tennessee College of Medicine, Memphis, Tennessee, read a paper entitled "Diagnosis of Sickle Cell Anemia" (Lantern Slides).

Dr. Roger D. Baker, Professor of Pathology, Medical College of Alabama, Birmingham, Alabama, read a paper entitled "The Histopathologic Diagnosis of Mycotic Diseases."

Dr. J. W. Kernohan, Director of Section on Pathologic Anatomy and Neuropathology, Mayo Clinic, Rochester, Minnesota, read a paper entitled "Classification of Brain Tumors in Relationship to Their Prognosis" (Lantern Slides).

Thursday, November 16, 2:00 p.m.

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Dr. Frank W. Konzelmann, Pathologist, Emergency Hospital Washington, D. C., read a paper entitled "The Professional Relations of the Clinical Pathologist in Medical Practice."

Paper by Dr. Fred P. Handler, Assistant City Pathologist, Snodgras Laboratory of St. Louis City Hospital, and Dr. J. Owen Blache, Director of Laboratories, Homer G. Phillip Hospital, and Instructor in Pathology, Washington University School of Medicine, St. Louis, Missouri, read a paper entitled "Renal Artery Arteriosclerosis in the Negro and Its Relation to Hypertension" (Lantern Slides), was read by Dr. Handler.

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There was a good attendance at both the morning and afternoon sessions.

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The meeting adjourned.

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The Auxiliary met in the Jefferson Hotel, Crystal Room, and was called to order by the President, Mrs. Robert C. Haynes, who presided.

The Reverend Erich E. Leidner, St. Louis, Missouri, gave the invocation.

Addresses of welcome were given by Mrs. C. V. Wilcox, President, Woman's Auxiliary to the St. Louis Medical Society and Chairman of Ladies Entertainment Committee, St. Louis; and Mrs. Dwight Van Del, President, Woman's Auxiliary to Missouri State Medical Association, Kansas City, Missouri. Mrs. Waverly R. Payne, Councilor for Virginia, Hampton, Virginia, responded to the addresses of welcome.

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The President presented Mrs. Arthur A. Herold, President, Woman's Auxiliary to the American Medical Association, and Past President, Woman's Auxiliary to the Southern Medical Association, Shreveport, Louisiana; Mrs. L. S. Thompson, President-Elect, Woman's Auxiliary to the Southern Medical Association, Dallas, Texas; Mrs. V. Eugene Holcombe, Past President, Woman's Auxiliary to the American Medical Association, and First Vice-President, Woman's Auxiliary to the Southern Medical Association, Charleston, West Virginia; and Mrs. Dwight Van Del, President, Woman's Auxiliary to the Missouri State Medical Association, Kansas City, Missouri. And the Officers, Chairmen of Standing Committees and Past Presidents of the Woman's Auxiliary to the Southern Medical Association were also recognized.

Mrs. Bernard T. Koon, Chairman of the Pages, St. Louis, presented the Pages: Misses Marie Tjoflat, Jane Merz, and Anita Signorelli, all of St. Louis.

Telegrams from the following were read: Mrs. W. W. Potter, Past President and Custodian of Records, Woman's Auxiliary to the Southern Medical Association, Knoxville, Tennessee; Mrs. C. M. McCoy, President, Woman's Auxiliary to the Medical Society of Virginia; Mrs. John Pierpont Helmick, Past President, Woman's Auxiliary to the Southern Medical Association, Fairmont, West Virginia; and Mrs. James F. McMurray, President, Woman's Auxiliary to the Oklahoma State Medical Association, Sentinel, Oklahoma.

The President expressed in her report appreciation, particularly to the Councilors, her Advisory Board, and members of her Executive Board, for their cooperation during the year; and the body stood in recognition of her achievements.

Reports of the officers and committee chairmen were read and approved.

The Treasurer gave her report.

The Historian's report revealed that all states observed Doctor's Day; thirteen states participated in Research and Romance of Medicine; and ten states contributed to the Jane Todd Crawford Fund; and that there are now within the territory of the Southern Medical Association 381 auxiliaries with a membership of 15,939.

The Doctor's Day Chairman announced the following awards: first prize $10.00 (Louisiana—outstanding Parishes, Baton Rouge and Calaseieu); second prize $5.00 (Kentucky); and Honorable Mention: Arkansas and North Carolina. Report and recommendations of the Doctor's Day Chairman were accepted.

The budget for 1950-51, recommended by the Executive Board, was accepted.

Memorial Service was conducted by Mrs. M. Pinson Neal, Past President, Woman's Auxiliary to the Southern Medical Association, Columbia, Missouri.

The meeting then adjourned.

Wednesday, November 15, 9:30 a.m.

The Auxiliary met in the Jefferson Hotel, Crystal Room, the President, Mrs. Robert C. Haynes, presiding.

Mrs. John W. Turner, Councilor for Georgia, Atlanta, gave the invocation.

The minutes of the Cincinnati meeting were approved as printed in the SOUTHERN MEDICAL JOURNAL (April 1950). The minutes of the General Session, November 14, 1950 were read and approved.

Mrs. L. M. Jenkins, Revisions Chairman, Miami, Florida, read the Constitution in its entirety and upon motion made and carried it was accepted as presented by the Executive Board, and the By-Laws were referred to the new administration to be brought before the 1951 Auxiliary meeting.

Reports of the State Councilors were read and filed.

Motion was made and carried that a telegram be sent to Mrs. U. G. McClure, Councilor for West Virginia, Charleston, who because of ill health was unable to be present.

Mrs. DeWitt T. Milam, President, Woman's Auxiliary to the Louisiana State Medical Society, Monroe, was commended upon her fine detailed report of the convention of the Woman's Auxiliary to the American Medical Association in San Francisco in June 1950.

A moment of silent recognition was paid to the memory of the late Mrs. S. C. Red, Dallas, Texas, who served as the first president of the Woman's Auxiliary to the American Medical Association.

In the absence of the Doctor's Day Chairman, Mrs. Ryan, Treasurer, presented the awards as announced at the Tuesday session.

Mrs. Richard H. Clark, Past President, Woman's Auxiliary to the Southern Medical Association, Hattiesburg, Mississippi, read the Courtesy Resolutions which were adopted.

Mrs. Louis K. Hundley, Chairman, Auditing Committee, Pine Bluff, Arkansas, reported that the Treasurer's books were found to be correct.

Mrs. C. V. Wilcox, General Chairman, Committee on Ladies Entertainment, St. Louis, announced a total registration of 198.

Moved and carried that a telegram be sent to Dr. Seale Harris, Birmingham, Alabama, congratulating him upon the recognition he had received on his book "Woman's Surgeon" and expressing the regret of the Auxiliary at his inability to be present.

Recommendations from the Executive Board were read and approved.

Mrs. William M. Salter, Chairman of the Nominating Committee, Anniston, Alabama, presented the following report, the nominees being duly elected and installed by Mrs. F. F. Kirby, Past President, Woman's Auxiliary to the State Medical Association of Texas, Waco:

President—Mrs. L. S. Thompson, Dallas, Texas.
President-Elect—Mrs. V. Eugene Holcombe, Charleston, West Virginia.
First Vice-President—Mrs. Neil W. Woodward, Oklahoma City, Oklahoma.
Second Vice-President—Mrs. W. W. Crawford, Hattiesburg, Mississippi.
Recording Secretary—Mrs. Louis K. Hundley, Pine Bluff, Arkansas.
Corresponding Secretary—Mrs. Warren E. Massey, Dallas, Texas.
Treasurer—Mrs. L. M. Jenkins, Miami, Florida.
Historian—Mrs. A. L. O'Briant, Raeford, North Carolina.
Parliamentarian—Mrs. Robert C. Haynes, Marshall, Missouri.

Mrs. Robert C. Haynes, retiring President, presented the gavel to the incoming President, Mrs. L. S. Thompson, Dallas, Texas.

Mrs. Herold commended Mrs. Haynes upon her successful year as President, having observed in many states her appearance as guest and the honor she brought to the Southern Medical Auxiliary. A rising vote of thinks was extended to Mrs. Haynes.

Mrs. Thompson urged each member to reaffirm her efforts in promoting the aims and the objectives of the Auxiliary. She extended a cordial invitation to attend the twenty-seventh annual convention which will convene in Dallas in 1951.

The meeting adjourned.

Wednesday, November 16, 1:00 p.m.

The Auxiliary met for its twenty-sixth annual luncheon at the Jefferson Hotel, Ivory Room, St. Louis, the President, Mrs. Robert C. Haynes, presiding.

Mrs. Joseph W. Kelso, Past President, Woman's Auxiliary to the Southern Medical Association, Oklahoma City, Oklahoma, gave the invocation.

Recognition was given to Mrs. L. S. Thompson, President 1950-51, Woman's Auxiliary to the Southern Medical Association, Dallas, Texas; and also to distinguished guests, state presidents, councilors and past presidents.

Mrs. A. A. Herold, President, Woman's Auxiliary to the American Medical Association, gave an address on "By-Standers Are Not Innocent."

Dr. Jere L. Crook, a Past President of the Southern Medical

Association, Jackson, Tennessee, paid tribute to Dr. Seale Harris, a Past President of the Southern Medical Association, Birmingham, Alabama, for his service to humanity and the medical profession, and read the address prepared by Dr. Harris for this meeting, "The Romance of Marion and Theresa Sims."

The meeting then adjourned.

Thursday, November 16, 8:30 a.m.

The Executive Board, post-convention meeting, met at a breakfast at the Jefferson Hotel, Room 2, St. Louis, the President, Mrs. L. S. Thompson, Dallas, Texas, presiding. There were thirty-two present.

Mrs. James N. Brawner, Sr., Atlanta, Georgia, gave the invocation.

Dr. Milford O. Rouse, Councilor to the Southern Medical Association from Texas, Dallas, was introduced and spoke briefly, extending a cordial invitation to the 1951 meeting in Dallas.

The President paid tribute to the following Southern women who have served as president of the Woman's Auxiliary to the American Medical Association: Mrs. Seale Harris, Birmingham, Alabama, who organized the Southern Medical Auxiliary, Mrs. Allen H. Bunce, Atlanta, Georgia; Mrs. Rogers N. Herbert, Nashville, Tennessee; Mrs. V. Eugene Holcombe, Charleston, West Virginia; Mrs. Frank N. Haggard, San Antonio, Texas; Mrs. Eustace A. Allen, Atlanta, Georgia; Mrs. S. C. Red, Houston, Texas; Mrs. John O. McReynolds, Dallas, Texas; Mrs. George H. Hoxie, Kansas City, Missouri; Mrs. Arthur B. McGlothlan, St. Joseph, Missouri; and the incumbent, Mrs. Arthur A. Herold, Shreveport, Louisiana. Mrs. Holcombe, President-Elect, Woman's Auxiliary to the Southern Medical Association, was introduced and spoke briefly.

After presenting some presidents of state society auxiliaries, some past presidents, Mrs. C. V. Wilcox, Chairman of Ladies Entertainment, St. Louis, and Mrs. John J. O'Connell, Councilor to the Southern and Chairman of the Breakfast, the President expressed appreciation for the outstanding administration of the immediate Past President, Mrs. Robert C. Haynes. Mrs. Haynes spoke briefly and read a telegram of greetings from Mrs. U. G. McClure, Councilor for West Virginia, Charleston, who was unable to attend.

The President outlined her objectives for the year 1950-51 as follows: assistance to the Southern Medical Association in its program; promotion of friendliness and fellowship among Auxiliary members; more conscientious effort toward fulfilling individual responsibilities as board members; and reporting to the next convention the names of outstanding workers in each state Auxiliary who are eligible to hold office in the Southern.

Telegrams of greetings were received from several members who were unable to attend.

The minutes of the Pre-Convention Board meeting were read and approved.

Upon motion made and carried, Mrs. George D. Feldner, Councilor for Louisiana, New Orleans, was empowered to purchase die for the proposed President's pin after additional prices are obtained.

The Secretary, in the absence of the Budget Chairman, Mrs. John W. Turner, Atlanta, Georgia, read the budget adopted at the first Executive Board meeting. (See page 272.)

The President announced the following Chairmen of Standing Committees (all are members of the Executive Board):

Budget—Mrs. John W. Turner, Atlanta, Georgia.

Custodian of Records—Mrs. William W. Potter, Knoxville Tennessee.

Doctor's Day—Mrs. Stanley A. Hill, Corinth, Mississippi.

Jane Todd Crawford Fund—Mrs. J. Ullman Reaves, Mobile, Alabama.

Memorial—Mrs. R. F. Stover, Miami, Florida.

Research and Romance of Medicine—Mrs. C. P. Corn, Greenville, South Carolina.

Resolutions—Mrs. W. M. Salter, Anniston, Alabama.

Revisions—Mrs. DeWitt T. Milam, Monroe, Louisiana.

The President announced the appointment of councilors for a term of three years to expire 1953.

Council, Woman's Auxiliary to the Southern Medical Association

(All are Members of the Executive Board)

Expire 1951—
Kentucky—Mrs. Walker Owens, Mt. Vernon.
Louisiana—Mrs. George D. Feldner, New Orleans.
Maryland—Mrs. Thomas A. Christensen, College Park.
Mississippi—Mrs. Harvey F. Garrison, Sr., Jackson.
Missouri—Mrs. John J. O'Connell, St. Louis.
North Carolina—Mrs. Edward R. Hipp, Charlotte.

Expire 1952—
Oklahoma—Mrs. Ray M. Balyeat, Oklahoma City.
South Carolina—Mrs. J. L. Sanders, Greenville.
Tennessee—Mrs. H. E. Christenberry, Knoxville.
Texas—Mrs. Fred W. Horn, Dallas.
Virginia—Mrs. W. R. Payne, Hampton.
West Virginia—Mrs. U. G. McClure, Charleston.

Expire 1953—
Alabama—Mrs. Jos. R. Horn, Jr., Bessemer.
Arkansas—Mrs. Gordon P. Oates, Little Rock.
District of Columbia—Mrs. Wm. M. Ballinger, Washington.
Florida—Mrs. Lee E. Parmley, Winter Haven.
Georgia—Mrs. Walter G. Elliott, Cuthbert.

Living Past Presidents, Woman's Auxiliary to the Southern Medical Association

(All are Members of the Executive Board)

1925, Mrs. E. H. Cary, Dallas, Texas.
1927, Mrs. Oscar M. Marchman, Dallas, Texas.
1928, Mrs. Arthur T. McCormack, Louisville, Kentucky.
1929, Mrs. C. W. Garrison, Little Rock, Arkansas.
1930, Mrs. James N. Brawner, Sr., Atlanta, Georgia.
1931, Mrs. S. A. Collom, Sr., Texarkana, Texas.
1932, Mrs. Chas. E. Oates, Little Rock, Arkansas.
1933, Mrs. Arthur A. Herold, Shreveport, Louisiana.
1936, Mrs. Oliver W. Hill, Sr., Knoxville, Tennessee.
1937, Mrs. Frank N. Haggard, San Antonio, Texas.
1938, Mrs. Luther Bach, Florence, Kentucky.
1939, Mrs. W. K. West, Oklahoma City, Oklahoma.
1940, Mrs. Charles P. Corn, Greenville, South Carolina.
1941, Mrs. M. Pinson Neal, Columbia, Missouri.
1942, Mrs. J. Ullman Reaves, Mobile, Alabama.
1943, Mrs. Richard H. Clark, Hattiesburg, Mississippi.
1944-1945, Mrs. John Pierpont Helmick, Fairmont, West Virginia.
1946, Mrs. W. W. Potter, Knoxville, Tennessee.
1947, Mrs. Wiley R. Buffington, New Orleans, Louisiana.
1948, Mrs. Olin S. Cofer, Atlanta, Georgia.
1949, Mrs. Joseph W. Kelso, Oklahoma City, Oklahoma.
1950, Mrs. Robert C. Haynes, Marshall, Missouri.

Advisory Committee

The Advisory Committee to the Woman's Auxiliary is the Executive Committee of the Council of the Southern Medical Association: Dr. F. A. Holden, Chairman, Baltimore, Maryland; Dr. R. L. Sanders, Vice-Chairman, Memphis, Tennessee; Dr. Fred E. Woodson, Tulsa, Oklahoma; and ex-officio members, Dr. Curtice Rosser, President, Southern Medical Association, Dallas, Texas, and Dr. R. J. Wilkinson, President-Elect, Huntington, West Virginia.

3 water-soluble liquid vitamin preparations

As vitamin needs vary throughout childhood, the versatility of the *three Vi-Sols* makes them ideal supplements. The Vi-Sols are pleasant tasting, and the calibrated droppers make dosage measurement easy.

	VITAMIN A	VITAMIN D	ASCORBIC ACID	THIAMINE	RIBOFLAVIN	NIACINAMIDE
POLY-VI-SOL each 0.6 cc. supplies:	5000 units	1000 units	50 mg.	1 mg.	0.8 mg.	5 mg.
TRI-VI-SOL each 0.6 cc. supplies:	5000 units	1000 units	50 mg.			
CE-VI-SOL each 0.5 cc. supplies:			50 mg.			

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Continued from page 258

and pin at the last meeting of the Northeast Mississippi Medical Society at Tupelo. A posthumous award of the pin and certificate was made to Dr. J. H. Stone of Tremont, received by Dr. O. P. Stone, Ripley.

MISSOURI

Dr. Grayson Carroll, St. Louis, has been appointed a member of the Council of the Southern Medical Association from Missouri for a regular council term of five years, beginning at the close of the annual meeting in Dallas, Texas, in November, the appointment having been announced recently by the President-Elect, Dr. R. J. Wilkinson, Huntington, West Virginia. Dr. Carroll succeeds Dr. Daniel L. Sexton, St. Louis, whose term will expire with the close of the Dallas meeting in November, and who having served the constitutional limit is not eligible for reappointment.

The Missouri State Medical Association will hold its ninety-third Annual Session in Kansas City April 22-25, with Dr. W. A. Bloom, Fayette, as President.

The Missouri Society of Medical Technologists is compiling a register of all the technicians in the state for purposes of civilian defense. Doctors, hospitals and technicians have been requested to send names of both active and nonactive technicians and technologists to Miss Audrey Murphy, 404 Missouri Theater Building, St. Louis.

Dr. Buford Hamilton, Richmond, Director of the State Division of Health, has instigated a survey to find out how efficiently the Division is carrying out its preventive program in public health and to find ways of improving the program. The findings of the survey will be reported to the people of Missouri through a special committee led by Dr. Chester Starr, Director of Rural Health, Missouri Farm Bureau.

Dr. A. N. Arneson, St. Louis, has been elected President of the St. Louis Surgical Society for 1951. He succeeds Dr. James Barrett Brown, St. Louis, to the post.

The American College of Physicians will meet in St. Louis April 9-13, under the leadership of Dr. William S. Middleton, Madison, Wisconsin, President.

NORTH CAROLINA

Dr. H. L. Brockmann, High Point, has been appointed as a member of the Council of the Southern Medical Association from North Carolina for a regular Council term of five years, beginning at the close of the annual meeting in Dallas, Texas, in November, the appointment having been announced recently by the President-Elect, Dr. R. J. Wilkinson, Huntington, West Virginia. Dr Brockmann succeeds Dr. Lenox D. Baker, Durham, whose term will expire with the close of the Dallas meeting in November, and who having served the constitutional limit is not eligible for reappointment.

Dr. Robert H. Wagner, formerly at the Children's Hospital in Cincinnati, has joined the staff of the Department of Pathology at the University of North Carolina School of Medicine, Chapel Hill, as a research associate.

Dr. Thomas C. Butler, Professor of Pharmacology, University of North Carolina School of Medicine, Chapel Hill, has been awarded a grant of $6,793 by the U. S. Public Health Service, to investigate quantitatively the metabolic fate of N-methyl derivatives of barbituric acid, in particular some of the compounds in current use as antiepileptic agents, in order to contribute to the knowledge of the chemical structures required for antiepileptic activity, and to clarify the rightful place of the drugs in therapeutics.

Dr. Roger B. Bost, Duke Hospital Pediatrician and member of the Duke Medical School Faculty, Durham, has joined the staff of the Oschner Clinic in New Orleans, Louisiana.

The Duke University School of Medicine, Durham, has been allotted a $17,000 grant by the National Foundation of Infantile Paralysis, for research, to be under the direction of Dr. J. E. Markee, Professor of Anatomy.

Dr. William T. Berkeley, Charlotte, has opened offices there for the practice of plastic and reconstructive surgery.

Dr. Claude A. Frazier has opened offices in Asheville for the practice of pediatric surgery.

Dr. William Francis Martin, Charlotte, has been made a Certified Fellow in the International College of Surgeons.

Dr. Logan O. Jones and Dr. Raymond Wheeler, both of Charlotte, have associated for the practice of internal medicine.

The North Carolina League for Crippled Children has established the new Wake County Orthopedic Clinic in the Wake County Health Department, Raleigh, for examination and discovery of orthopedic defects. Hours are the third Tuesday of each month at 9:00 a.m. No treatment will be given.

Dr. R. Burke Suitt, Durham, has been elected President of the Southern Psychiatric Association.

The Seaboard Medical Association re-elected Dr. L. Everett Sawyer, Elizabeth City, Secretary-Treasurer at its December meeting in Elizabeth City.

Continued on page 54

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Five Days—April 16-20, 1951

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OBSTETRICS and GYNECOLOGY

A full-time course. In Obstetrics: lectures; prenatal clinics; witnessing normal and operative deliveries; operative obstetrics (Manikin). In Gynecology: lectures; touch clinics; witnessing operations; examination of patients preoperatively; follow-up in wards postoperatively. Obstetrical and gynecological pathology. Anesthesia. Attendance at conferences in obstetrics and gynecology. Operative gynecology on the cadaver.

PROCTOLOGY AND GASTROENTEROLOGY

A combined course comprising attendance at clinics and lectures; instruction in examination, diagnosis and treatment; witnessing operations; ward rounds; demonstration of cases; pathology; radiology; anatomy; operative proctology on the cadaver.

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Keefer, Chester S.: Am. J. Med. 7:216

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The unusually palatable liquid penicillins for oral use

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- Acute sinusitis
- Bronchitis
- Tonsillitis
- Otitis media
- Pneumonia
- Cellulitis
- Gonorrhea
- Certain skin infections

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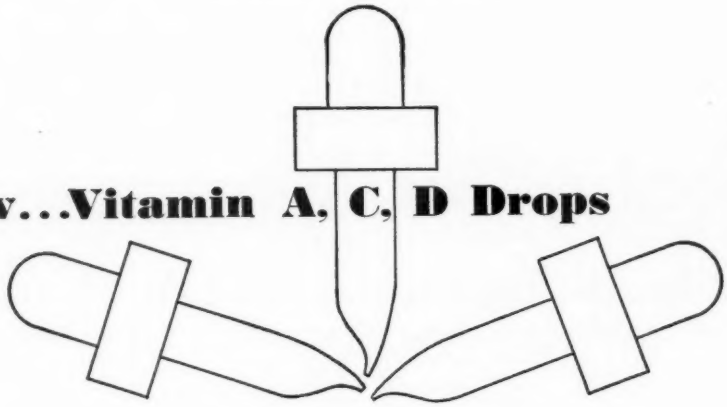

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Advantages:

Aqueous Solution—means faster and more efficient absorption of the fat-soluble vitamins A and D.

In conditions in which fat absorption is impaired, such as diarrheas, celiac disease, hepatic and biliary disturbances, the value of an aqueous solution is obvious.

Hypoallergenic—all the component vitamins of Aquasperse are synthetic. Consequently it may be used where patients cannot tolerate natural source vitamins.

Pleasant flavor . . . no objectionable odor—Aquasperse has an appealing, slightly citrus flavor and practically no odor.

EACH 0.6 CC. CONTAINS:

vitamin A	5000 U.S.P. Units
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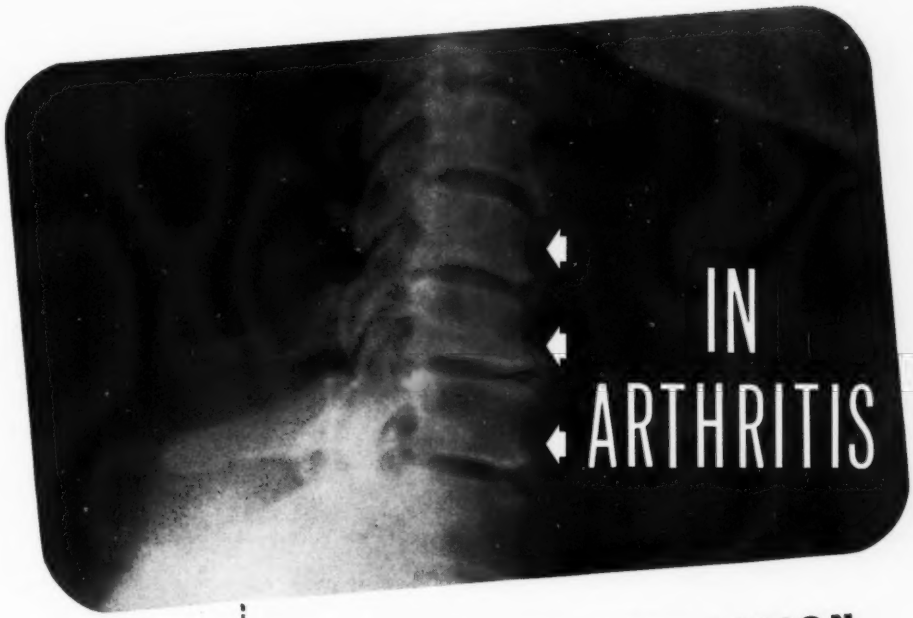

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Calcium ascorbate (equivalent to 50 mg. of ascorbic acid)	1 gr.
Calcium carbonate	1 gr.

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SALCEDROX
TABLETS

Continued from page 50

OKLAHOMA

The fifty-eighth annual meeting of the Oklahoma State Medical Association will take place in Tulsa, May 21-23, under the leadership of its President, Dr. Ralph A. McGill, Tulsa.

Dr. Marvin S. Terrell, formerly of Oklahoma City and Britton, has established offices in Buffalo.

Dr. John Edwards, formerly of Okmulgee, has moved to Los Alamos, New Mexico, where he is Chief of the Pediatric Staff at the hospital connected with the atomic energy research project.

Dr. W. W. Cotton, Poteau, attended a postgraduate course in gynecology at the Cook County Graduate School of Medicine, Chicago.

Dr. Jim Haddock, Norman, has been inducted as an Associate Fellow into the International College of Surgeons.

Dr. L. A. Turley, Oklahoma City, dean emeritus of the University of Oklahoma School of Medicine, was recently inducted into the Oklahoma Hall of Fame.

Dr. George K. Stephens, Ada, has been made a diplomate of the American Board of Pediatrics.

Dr. F. W. Taylor, formerly of Duncan, has accepted a position as resident in urology at the Wichita Falls Clinic, Wichita Falls, Texas.

Dr. John F. Simon, Alva, attended a postgraduate course in traumatic surgery at the Harvard University Hospital in Boston recently.

SOUTH CAROLINA

Dr. J. Lloyd Mims has opened offices in Spartanburg for the practice of dermatology, having recently completed examinations of the American Board of Dermatology and Syphilology.

Dr. Asa M. Scarborough, Greenville, has been elected as a Fellow of the American College of Surgeons.

Dr. Kenneth M. Lynch, Jr., has opened offices in Charleston for the practice of urology.

Dr. John A. Ritchie, Greenville, is now practicing psychiatry there.

Dr. A. P. Duff, Greenville, has opened an office there for the general practice of medicine.

Dr. John M. Fewell, Dr. Will S. Fewell, and Dr. Thomas C. Furman, all of Greenville, have announced the association of Dr. Walter A. Chandler, Jr., Greenville, in the practice of general medicine.

Dr. Ben N. Miller, Hickory Grove, has been elected a member of the American College of Physicians.

Dr. T. G. Goldsmith, Greenville, has been elected President-Elect of the South Carolina Academy of General Practitioners.

TENNESSEE

A new Rural Health Committee of the Tennessee State Medical Association has been appointed. Those serving on the committee are Dr. Rae B. Gibson, Greeneville; Dr. Henry T. Kirby-Smith, Sewanee; Dr. Frank H. Booher, Lynchburg; Dr. William N. Cook, Columbia; Dr. John L. Armstrong, Somerville; Dr. James S. Hall, Clinton; Dr. Thayer Wilson, Carthage; Dr. James A. Loveless, Gallatin; Dr. Hunter Steadman, Henderson; and Dr. J. T. Carter, Germantown. The committee was chosen by the Board of Trustees of the Association.

The annual meeting of the Tennessee State Medical Association will take place in Nashville April 9-11, with headquarters at the Maxwell House. Physicians who plan to attend the meeting have been requested to make hotel reservations immediately.

The Tennessee Academy of General Practice will meet in Nashville at the same time the State Society is meeting there. The Academy will have its own scientific program on April 9.

The Middle Tennessee Medical Association will hold its semi-annual session in Cookeville May 17, under the leadership of its President, Dr. Robert M. Finks, Nashville. Dr. W. N. Cook, Columbia, is the President-Elect.

Dr. W. S. Alexander was presented his 50-year pin from the State Medical Association recently.

Dr. Ernest W. Goodpasture, Vanderbilt University Pathologist, Nashville, has gone to Japan to study the effects of radiation and burns on victims of the atom bomb explosions, at the request of the Atomic Energy Commission.

Dr. O. S. Hauk, Nashville, has been named President-Elect of the Southern Psychiatric Association.

Dr. Horace B. Cupp, Chief Medical Officer at the Veterans Administration Center, Mountain Home, has been appointed manager of the Veterans Administration Hospital, Chamblee, Georgia. He succeeds Dr. John J. Hood who was recently appointed manager of the Veterans Administration Hospital at Richmond, Virginia.

Continued on page 58

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*Wilder & Keys, "Handbook of Nutrition," A. M. A. 1943, Chapter entitled "Unusual Foods."

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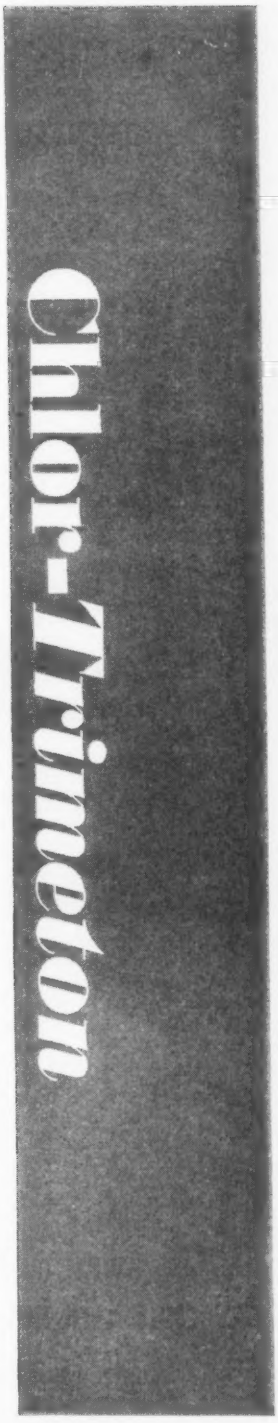

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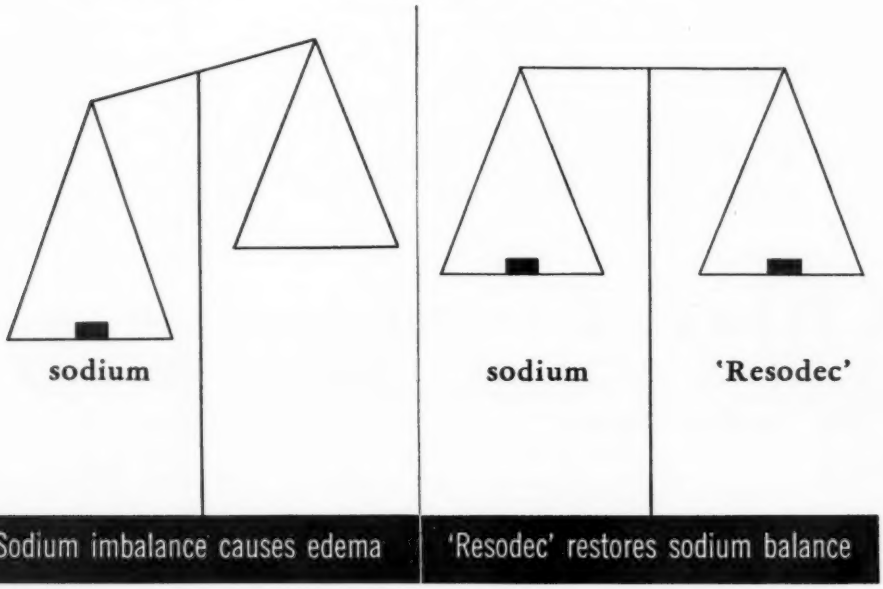

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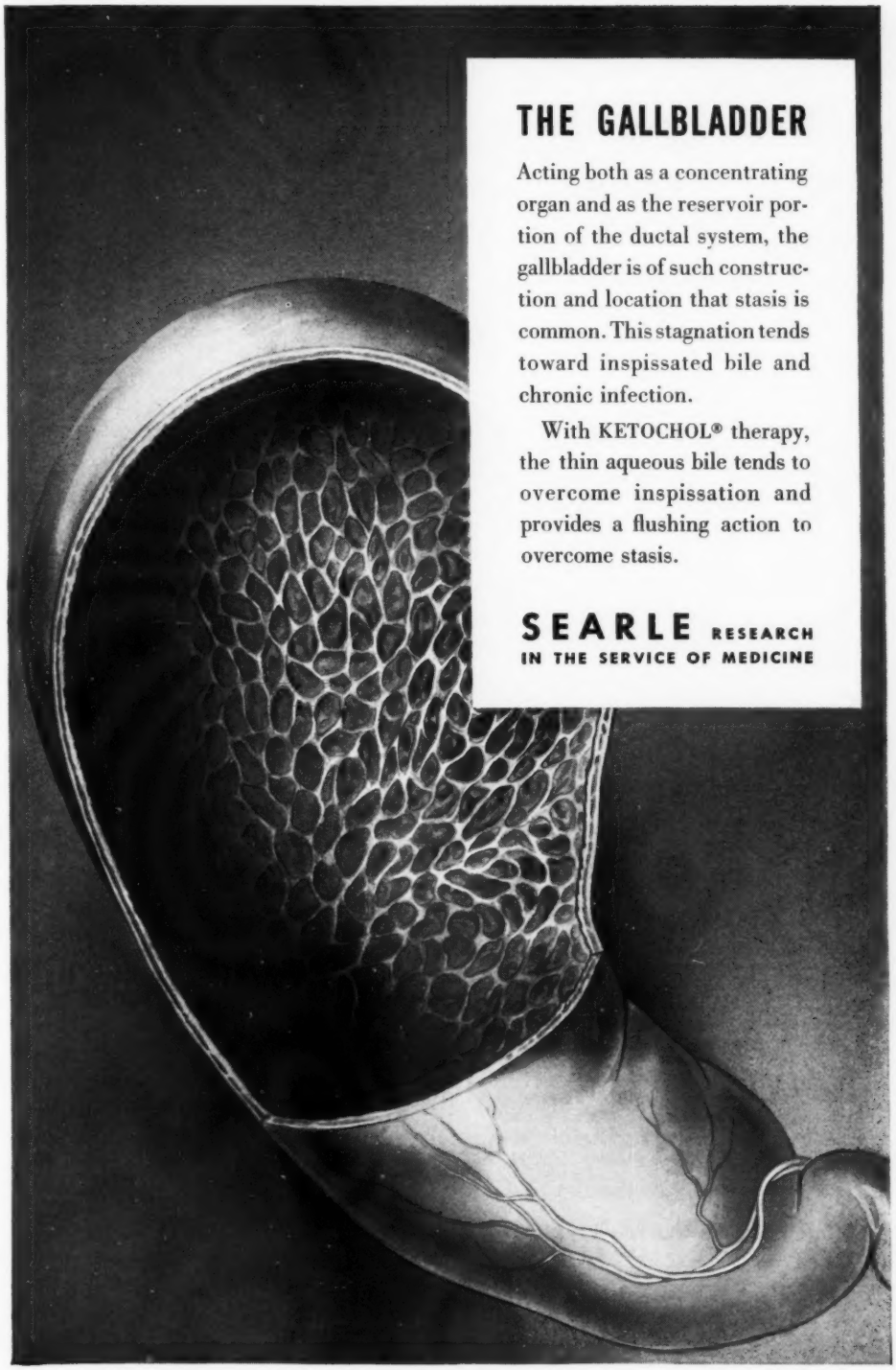
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Please send me, by return mail, free brochure on the portable Blendtome Electrosurgical Unit.

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Continued from page 54

Dr. Hugh L. Prather, Chief of Professional Services at Memphis Veterans Administration Hospital, has been appointed Manager of the Hospital. He succeeds Dr. Clyde M. Beck.

TEXAS

The State Medical Association of Texas will meet in Galveston, May 1-2, with Dr. William M. Gambrell, Austin, President, presiding.

The Southwest Allergy Forum will meet in San Antonio April 8-10. Presiding will be Dr. J. H. W. Rouse, San Antonio, President.

The Texas Air-Medics Association has scheduled a meeting for April 30 in Galveston, under the leadership of Dr. D. P. Laugenour, Dallas, President.

The Texas Chapter of the American College of Chest Physicians plans a meeting in Galveston for April 30. Dr. David McCullough, Kerrville, President, will preside.

The Texas Dermatological Society will meet in Galveston April 30, with Dr. J. G. Brau, Dallas, President, presiding.

The Texas Heart Association will meet in Galveston April 30. Dr. George W. Parson, Texarkana, President, will preside.

The Texas Diabetes Association plans to meet in Galveston April 30, under the leadership of Dr. B. F. Smith, Houston, President.

The Texas Hospital Association will meet in San Antonio April 24-26, with Mr. Roy Wilmesmeier, Houston, President, presiding.

The Texas Neuropsychiatric Association will meet in Galveston April 30. Dr. Martin L. Towler is president.

The Texas Orthopedic Association will meet in Galveston April 30. Dr. Louis Breck, El Paso, President, will preside.

The Texas Railway and Traumatic Surgical Association will meet in Galveston April 30, with Dr. R. J. White, Fort Worth, President, presiding.

The Texas Society for Mental Health will hold a meeting in Galveston on March 8-9. Dr. Hamilton Ford, Galveston, President, will preside.

The Texas Society of Anesthesiologists plans a meeting for April 30 in Galveston, with Dr. Russell Bonham, Houston, President, presiding.

The Texas Society of Gastroenterologists and Proctologists will meet in Galveston April 30. Dr. Carl G. Giesecke, San Antonio, is president.

The Texas Surgical Society will meet in Galveston April 2-3, under the leadership of its President, Dr. Edward White, Dallas.

Dr. Walter G. Rice, Dallas, has been appointed to the staff of the St. Louis University School of Medicine, St. Louis, Missouri.

Dr. B. C. Bullen, Kerrville, has left his position as Chief of Professional Service of the Veterans Administration Hospital at Kerrville to take the position of Chief Medical Officer of the Veterans Administration regional office in San Antonio.

Dr. George W. Cox, Austin, was recently re-elected to his eighth term as State Health Officer by the Texas State Board of Health. Board members are: Dr. O. B. Kiel, Wichita Falls, Chairman; Dr. S. D. Coleman, Navasoto; Dr. John H. Mitchell, Tyler; Dr. A. W. Rogers, Corsicana; Dr. T. C. Terrell, Fort Worth; Dr. B. E. Pickett, Carrizo Springs; and L. S. Oates, Center.

Construction on the new headquarters and library building of the Texas State Medical Association in Austin was scheduled to begin immediately after letting of the contracts last January.

Dr. Robert W. Kimbro, Cleburne, will succeed Dr. George A. Schenewerk, Dallas, as Chairman of the Committee on Public Relations of the State Medical Association of Texas. Dr. Kimbro was appointed by the Board of Trustees after the resignation of Dr.

Continued on page 62

Classified Advertisements

RESIDENCY AVAILABLE—Approved residency internal medicine available now and July 1, 1951. Hospital located Coral Gables, Florida. Medical Service of 230 beds with Basic Science and Research Laboratories available. Write Chairman, Deans' Committee, L. G. Rowntree, M. D., duPont Building, Miami, Florida.

OPPORTUNITY FOR PHYSICIAN—Substantial practice of fifty years standing for physician and surgeon located in Quincy, Florida. Offices established in ideal location, ground floor, residential section, near business center. Community needs doctor. Address Mrs. R. F. Godard, Quincy, Florida.

WANTED—Retiring physician wishes to contact a young physician wishing to do general practice and surgery. Practice established fifty-one years; in the same office twenty-seven years; in city of 300,000 population. Will introduce for a reasonable period of time. Give full description of self in first letter. Contact SJI, c/o SMJ.

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Orthoxicol
This effective new antitussive and antispasmodic preparation quickly relieves cough associated with the common cold, laryngitis, tracheitis, bronchitis, and bronchial asthma. A palatable cherry-flavored syrup, Orthoxicol* exerts powerful decongestive, bronchodilator, antispasmodic and sedative effects. Each fluidounce of Orthoxicol contains about
1/6 gr. dihydrocodeinone bitartrate,
1½ grs. Orthoxine*† hydrochloride,
1/100 grs. hyoscyamine hydrochloride, and 30 grs. sodium citrate.
Supplied in pint bottles
*Trademarks †Brand of methoxyphenamine
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Medicine...
Produced with care... Designed for health
THE UPJOHN COMPANY, KALAMAZOO 99, MICHIGAN

"...the only drug we have seen that allays anxiety without clouding consciousness"

J.A.M.A. *140*:872 (June 25) 1949

Tolserol (*Squibb Mephenesin*)

- to alleviate pronounced anxiety and tension
- as an adjunct in the treatment of chronic alcoholics

DOSAGE

In anxiety tension states:

As little as 0.5 Gm., given orally every few hours, has produced a good response. However, for optimum effect, 0.75 Gm. or more is given several times a day.

As an adjunct in the treatment of chronic alcoholics:

As much as 3 Gm. orally every four hours has been found useful in the acute stage. This dosage is reduced when the patient becomes more manageable. (If Tolserol is given too soon after the patient drank alcohol, the toxic effect of the alcohol may be potentiated. For this reason, Tolserol should not be administered until six hours have elapsed since the patient drank alcohol.)

Tablets, 0.5 Gm., 0.25 Gm.; *Capsules*, 0.25 Gm.; *Elixir*, 0.1 Gm. per cc.; *Solution*, 2% (intravenous).

Tolserol *(Squibb Mephenesin)*

SQUIBB 745 FIFTH AVENUE, NEW YORK 22, NEW YORK
MANUFACTURING CHEMISTS TO THE MEDICAL PROFESSION SINCE 1858

"TOLSEROL" IS A REGISTERED TRADEMARK OF E. R. SQUIBB & SONS

in Coryza and Sinusitis... Bacitracin-Nasal

CSC

The combined use of a decongestant and bacitracin provides more than symptomatic value in the local treatment of many upper respiratory infections.[1,2] This approach not only improves nasal ventilation, but also aids in reducing the period of infection since many pathogens found in the nose and nasal sinuses are bacitracin-sensitive. Because of the low index of allergenicity of bacitracin, this antibiotic rarely leads to adverse local reactions on topical application.

Bacitracin-Nasal-C.S.C.—containing 250 units of bacitracin per cc. and 0.25% desoxyephedrine in a rose-scented, approximately isotonic aqueous solution—is a practical and convenient means of instituting intranasal bacitracin therapy. It is non-irritant and well tolerated, and its pleasant scent is acceptable to all patients. Bacitracin-Nasal-C.S.C. is indicated in the treatment of acute and subacute sinusitis, and in coryza when sinus involvement develops.

Bactricin-Nasal-C.S.C. is supplied dry in 15 cc. bottles with accompanying dropper. It is reconstituted by the pharmacist just before being dispensed.

REFERENCES

1. Prigal, S. J.: Bacteriologic and Epidemiologic Approach to the Treatment of Respiratory Infections with Aerosols of Specific Antibiotics, Bull. N. Y. Acad. Med. 26:282 (Apr.) 1951.
2. Stovin, J. S.: The Use of Bacitracin in the Treatment of Sinusitis and Related Upper Respiratory Infections, New York Physician 32:14 (July) 1949.
3. Prigal, S. J., and Furman, M. L.: The Use of Bacitracin, a New Antibiotic in Aerosol Form; Preliminary Observations, Ann. Allergy 7:662 (Sept.-Oct.) 1949.

C.S.C. Pharmaceuticals A DIVISION OF
COMMERCIAL SOLVENTS CORPORATION • 17 E. 42ND ST., NEW YORK 17, N. Y.

Continued from page 58

Schenewerk recently. He will also serve as the Chairman for Texas for the National Education Campaign.

Dr. Ellen Furey, Beaumont; Dr. J. M. Moore, San Antonio; and Dr. C. T. Ashworth, Fort Worth, have been appointed to the Advisory Committee to the Texas Society of Medical Technologists, by Dr. William C. Gambrell, Austin, President of the State Medical Association. The chairman will be Dr. Ashworth.

The George W. Truett Hospital, a 436-bed building constructed at a cost of $5,500,000, newest addition to the Baylor University Hospital, was formally opened in Dallas recently.

Dr. Harvey C. Slocum, Galveston, has been elected director of the American Board of Anesthesiology. He succeeds Dr. John W. Winter, San Antonio.

Colonel Robert K. Simpson, Kerrville, has been presented the Military Merit Medal of the Commonwealth of the Philippines for his aid in training Philippine medical officers. He is now retired.

The Pharmaceutical Foundation of the University of Texas, Galveston, has a grant of $3,600 from Sharp & Dohme, Philadelphia, to carry out an investigation of genus of fungi and its antibiotic properties. The project will be under the direction of Henry Burlage, Ph.D., dean of the college of pharmacy.

VIRGINIA

The American Dermatological Association will meet in Hot Springs, May 23-26. Dr. Henry E. Michelson, Minneapolis, is President.

Dr. Lester I. Fox, Fort Monroe, was recently certified by the American Board of Internal Medicine. He is Chief of Medicine in the Army Hospital at Fort Monroe.

The Richmond Academy of Medicine has installed Dr. Kinloch Nelson as President, and has named Dr. Guy W. Horsley President-Elect. New Vice-Presidents are Dr. Edwin L. Kendig, Jr., and Dr. H. St. George Tucker. Dr. E. E. Haddock and Dr. M. Morris Pinckney were made new members of the Board of Trustees.

The Petersburg Medical Faculty has elected Dr. E. L. McGill as President, succeeding Dr. Thomas B. Pope. Vice-Presidents elected were Dr. Carney C. Pearce and Dr. William B. McIlwaine. Dr. Glenn W. Phipps was elected Secretary-Treasurer.

Dr. Frederick Arthur Bleese, Hampton, retired Army brigadier-general, has been named Henrico County Health Director to succeed Dr. Robert Manton Wilson, Richmond.

The Southern Psychiatric Association has named Dr. J. E. Barrett, Richmond and Williamsburg, Chairman of the Board of Regents.

Dr. John B. Truslow, formerly Assistant Dean at Columbia University College of Physicians and Surgeons, has joined the staff of the Medical College of Virginia, Richmond, as Dean of its Medical School to succeed Dr. Harvey B. Haag who resigned to devote full time to work in the Department of Pharmacy.

Dr. H. Norton Mason, Richmond, has been appointed Surgeon-in-Chief of the Sons of Confederate Veterans by the National Commander.

The Virginia Radiological Society has elected Dr. W. P. Gilmer, Clifton Forge, President; Dr. J. Lloyd Tabb, Richmond, Vice-President; and Dr. P. B. Parsons, Norfolk, has been re-elected Secretary-Treasurer.

Dr. R. Bryan Grinnan, Jr., Norfolk, was elected President of the Seaboard Medical Association at its meeting in Elizabeth City last December.

Continued on page 70

Octin - *spasmolytic and sympathomimetic*

1... relaxation of smooth muscle spasm especially of the genito-urinary and gastro-intestinal tracts . . . . . .
2... in migraine and related headaches.

DOSE: Oral, 1 or 2 Octin tablets, 1 additional tablet in three to four hours.

Intramuscular injection, ½ to 1 cc. Give test dose to determine absence of sensitivity and excessive hypertensive reaction.

Octin ® brand of Isometheptene, methylisooctenylamine.

Bilhuber-Knoll Corp. Orange, N. J.

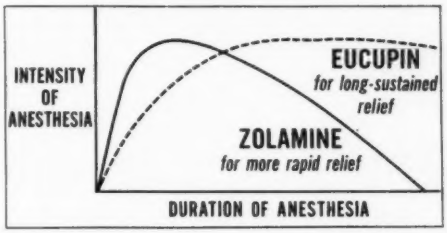
Now... more rapid, more sustained relief of earache

New combination of complementary local analgesics, *quick-acting* zolamine and *long-acting* Eucupin, gives more rapid and more sustained relief of otalgia.

As compared to benzocaine and chemically related compounds, zolamine and Eucupin are more potent and therefore produce a clinically more desirable local analgesic effect.

Otodyne is slightly viscous, thus adherence of the active ingredients to the epidermal surface is promoted. Hygroscopic action effects mild decongestion.

NEW—two analgesics combined for complemental effect



Formula:

Zolamine (N, N-dimethyl-N'2-thiazolyl-N'-p-methoxybenzyl-ethylenediamine)	1%
Eucupin® dihydrochloride*	0.1%
Polyethylene glycol	q. s.

Dropper bottles of ½ fluid ounce (15 cc.)

White's OTODYNE® NEW ANALGESIC EAR DROP

WHITE LABORATORIES, INC.
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Treat Him Early and Effectively

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The Rhythmic Constrictor is quiet, comfortable, easily applied. With the pressure periods pre-set, the patient himself may apply the cuffs and snap on the switch.

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LOW BACK and LOWER QUADRANT PAIN
POST-HERPETIC PAIN
OCCIPITAL NEURALGIA
SCIATIC PAIN
SELECTED CASES of
MIGRAINE SEGMENTAL NEURALGIA

*Persistent post-operative pain is often due to segmental neuralgia. Most of these patterns can be controlled.**

*Judovich & Bates.

RELIEF of PAIN in ANGINA PECTORIS Treatment by injection of stellate ganglia with Dolamin and Procaine.

"Angina Pectoris.—Stubbs and Woolsey treated 18 patients with angina pectoris by bilateral injection of the stellate ganglion with buffered ammonium sulfate solution. . . . There were no therapeutic failures and no deaths. . . . Bilateral stellate ganglion injection with buffered ammonium sulfate solution is a simple, quick and effective method for relief of severe angina pectoris."

The Journal of the American Medical Association, Vol. 144, No. 12, P. 1032.

". . . Our results may be summarized by recounting that eighteen patients were blocked thirty-one times during the course of a year. The results were excellent in thirteen cases or 72 per cent; fair in five cases or 28 per cent; and there was no failure." Southern Medical Journal, Vol. 43, No. 8, P. 675-678, "Angina Pectoris, Treatment by Injection of Stellate Ganglia with Ammonium Sulfate," by James B. Stubbs, M.D., and Robert Dean Woolsey, M.D.

FORMULA

Ammonium sulfate	0.75 per cent.
Benzyl alcohol	0.75 per cent.
Sodium chloride	0.48 per cent.
Ph adjusted to 7.2 with NH_4OH	
H_2O qs. Ad.	10 cc.

Supplied: 10 cc. ampuls in packages of 12, 25, and 100.

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All Children Can Benefit from *this Hot Drink at Breakfast*

The problem of encouraging children to eat an adequate breakfast finds easier solution when Ovaltine in hot milk is recommended as a breakfast beverage. Many children clamor for a hot drink at the morning meal and Hot Ovaltine is the right kind of drink to recommend.

A cup of Hot Ovaltine makes an excellent contribution of virtually all essential nutrients, adding substantially to the nutritional start for the day. It also serves in a gustatory capacity by enhancing the appeal of breakfast and making other foods more inviting.

The nutrient contribution made by a cup of Ovaltine is apparent from the table below. Note the wealth of essentials added to the nutritional intake by making the simple recommendation of adding a cup of Hot Ovaltine to the child's breakfast.

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Here are the nutrients that a cupful of hot Ovaltine, made of ½ oz. of Ovaltine and 8 fl. oz. of whole milk,* provides:

PROTEIN	10.5 Gm.	IRON	4 mg.	NIACIN	2.3 mg.
FAT	10 5 Gm.	COPPER	0.2 mg.	VITAMIN C	10 mg.
CARBOHYDRATE	22 Gm.	VITAMIN A	1000 I.U.	VITAMIN D	140 I.U.
CALCIUM	370 mg.	VITAMIN B_1	0.39 mg.	CALORIES	225
PHOSPHORUS	315 mg.	RIBOFLAVIN	0.7 mg.		

*Based on average reported values for milk.

NOW an entirely new approach to intranasal infections

Drilitol*

anti-bacterial • anti-allergic • decongestive

Drilitol is the only nose drop effective against both gram-negative and gram-positive pathogens. It contains *two* potent and synergistic antibiotics:

Polymyxin (new) . . . . . **anti-gram negative**
Gramicidin . . . . . **anti-gram positive**

The antibacterial spectrum of Drilitol is extremely wide. And, because Drilitol is both bacteriostatic *and bactericidal*, infection is controlled much more rapidly than if it were only bacteriostatic.

Drilitol also contains an efficient antihistaminic, thenylpyramine, and an effective vasoconstrictor, Council-accepted 'Paredrine'* Hydrobromide.

Drilitol will help you reduce the duration, severity and complications of many common intranasal infections.

Dosage: Adults: Three or four drops (1 dropperful) in each nostril, 4 or 5 times a day, not oftener than once every 2 hours.

Children: ½ the adult dosage.

Available: In ½ fl. oz. bottles with special dropper that delivers the adult dose.

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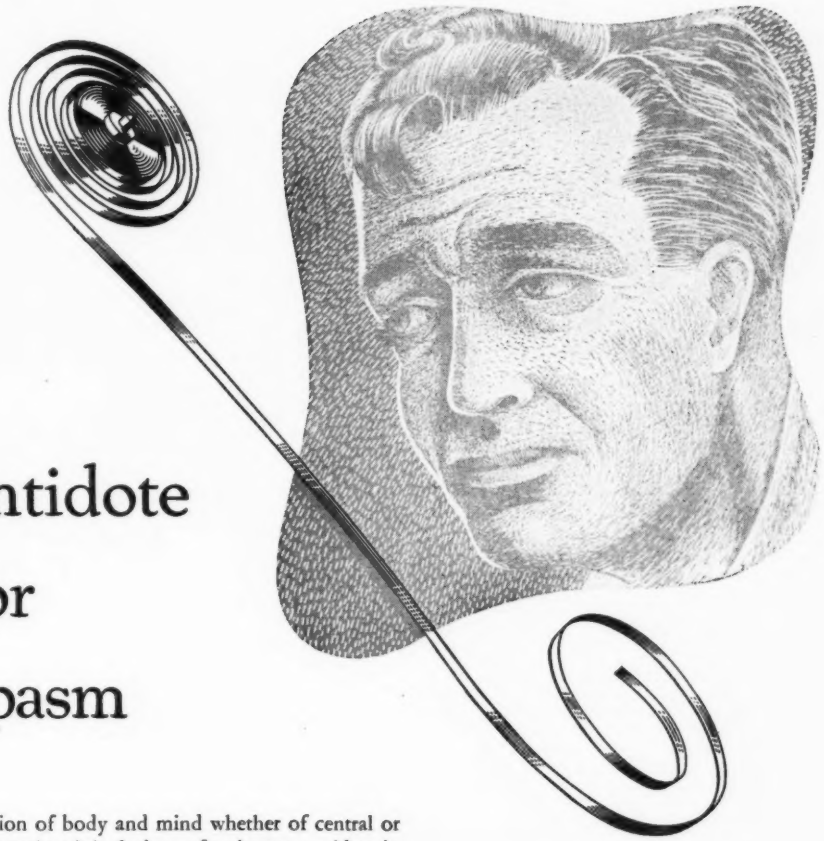
Formula: Drilitol is a stable, isotonic, aqueous solution containing gramicidin, 0.005%; polymyxin B sulfate, 500 units/cc.; thenylpyramine hydrochloride, 0.2%; 'Paredrine' Hydrobromide (hydroxyamphetamine hydrobromide, S.K.F.), 1%. Preserved with thimerosal, 1:100,000.



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Formula: Each tablet or fluidram (4 cc.) of elixir contains:
Phenobarbital . . . . . 16.0 mg. (¼ gr.)
Belladonna Alkaloids . . . . . 0.134 mg.
(approximately equivalent to ½ gr. belladonna leaves or 7 min. Tr. belladonna)
Tablets: in bottles of 100, 500 and 1000
Elixir: in bottles of 1 pint and 1 gallon

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DISPERSIBLE A&D
PALATABLE
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8 VITAMINS IN ONE PRODUCT
Each 0.6 cc. contains:
Vitamin A 5,000 U.S.P. Units
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OF HAY FEVER VICTIMS EVENTUALLY DEVELOP ASTHMA[1,2]...
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"Alleviation of the patient's symptoms with the antihistaminics will not prevent asthma."[2]

Preseasonal treatment, by specific hyposensitization begun six to twelve weeks before the anticipated exposure to tree pollens, grasses, and weeds, affords "excellent relief" in 80 to 85 per cent of cases—with greatly reduced likelihood of complications such as asthma and sinusitis.[2,3]

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DRY POLLEN DIAGNOSTIC SETS

contain at least 23 vials of selected windborne pollens representing the major causative factors in your area, plus a vial of house-dust allergen. Each vial provides enough material for about 30 tests; diluent furnished with each set. Price, $7.50.

POLLEN TREATMENT SETS

provide serial dilutions of single pollens of your choice, or pollen mixtures chosen from our 21 stock mixtures. Each set contains five 3-cc. vials of the following concentrations: 1:10,000; 1:5,000; 1:1,000; 1:500; and 1:100. Dosage schedule accompanies each set. Price, $7.50.

SPECIAL MIXTURE TREATMENT SETS

prepared according to your patient's individual sensitivities. Each set contains five 3-cc. vials in the same dilutions as above. Ten-day processing period required. Price, $10.00.

1. Cooke, R. A.: in Textbook of Medicine (Cecil). Philadelphia, W. B. Saunders Company, 1947; seventh edition, p. 528.
2. Nevius, W. B.: J. M. Soc. New Jersey 46: 17 (1949).
3. Rosen, F. L.: ibid. 45: 389 (1948).

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Continued from page 62

A new Department of Microbiology has been established at the University of Virginia Department of Medicine, Charlottesville. Dr. Alto E. Feller, formerly Associate Professor of Preventive Medicine at Western Reserve University, has been appointed Professor and Chairman of the new department.

Dr. Edward R. Cawley, formerly Assistant Professor of Dermatology and Syphilology at the University of Michigan, has been appointed Professor and Chairman of the Department of Dermatology and Syphilology at the University of Virginia, to succeed Dr. Dudley C. Smith who died last August. Dr. Clayton E. Wheeler, formerly Instructor at the University of Michigan, has been appointed Assistant Professor of Dermatology and Syphilology. He succeeds Dr. R. C. Thompson who resigned to enter practice in Chattanooga, Tennessee.

Dr. Richard J. Ackart, formerly of the Johns Hopkins Hospital, has been appointed Director of the University of Virginia Hospital.

Dr. Herbert W. Park, formerly a Baruch Fellow in Physical Medicine, has been appointed Assistant Professor of physical medicine at the University of Virginia Department of Medicine. He will serve as Director of the Woodrow Wilson Rehabilitation Center and Director of Physical Medicine at the University of Virginia Hospital.

Dr. Harry Lyons, Professor of Periodontia and Oral Pathology at the Medical College of Virginia, Richmond, has been made Dean of the School of Dentistry.

WEST VIRGINIA

The American Laryngological, Rhinological, and Otological Society will meet in White Sulphur Springs May 6-8. Dr. Louis H. Clerf, Philadelphia, President, will preside.

The second edition of the West Virginia Medical Directory has been published recently, edited by Dr. Arkie B. Bowyer, Charleston.

A chapter of Alpha Epsilon Delta, national premedical honor society, has been installed at Marshall College, Huntington. The chapter will be known as the West Virginia Beta Chapter, and Dr. Ralph M. Edeburn, premedical adviser will be the faculty adviser.

Dr. Walter E. Vest, Huntington, has been named Parliamentarian of the House of Delegates of the West Virginia State Medical Association by Dr. Frank J. Holroyd, Princeton, the Society's President.

Dr. Hugh A. Bailey, Charleston, has been elected a member of the Southern Surgical Association.

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For ACCURATE CLASSIFICATION

Improper classification, due to weak reacting testing sera or failure to differentiate A_1 from A_2 bloods may cause serious trouble—even fatalities.

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high theophylline content, ready solubility for rapid therapeutic effects in:

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ANNOUNCING A **NEW SPACE EIKONOMETER**

Simplified for Professional Office Use

No longer is a complicated, time-consuming clinical examination necessary for the detection and measurement of Aniseikonia. Whenever case histories or symptoms indicate possible presence of this disturbing factor, practitioners can now make the necessary tests in their own office easily and accurately with the new AO Space Eikonometer.

An ingenious lens system and target design reduce examination time to minutes instead of hours. Simple, critically accurate subjective testing is provided for magnification differences in horizontal, vertical, and *oblique meridians*. The price is less than half that of previous models. Only 6¾" x 9¼" of table space is required by the instrument.

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or a birthday girl?

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for simplified split skin grafting

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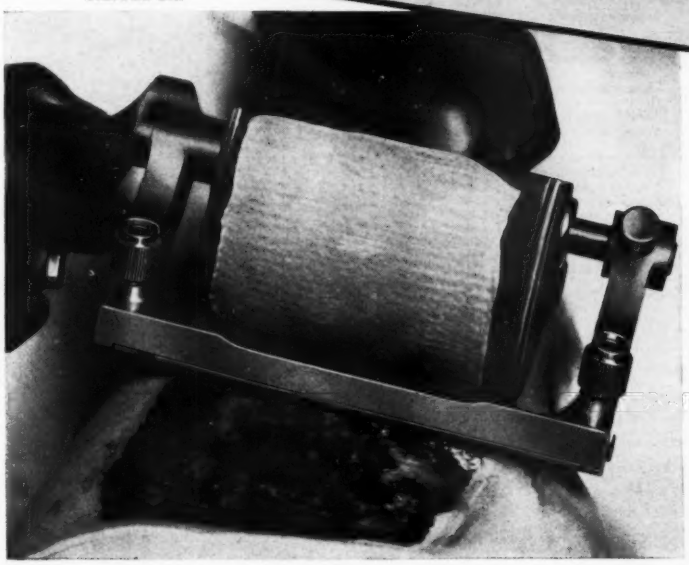

Several improved devices in recent years have greatly facilitated the excision of split skin grafts. None, however, has simplified the subsequent transfer and transplant of the graft to the lesion—*the most difficult and time consuming part of the operation.* The Reese Dermatape technique used with the Reese Dermatome so greatly simplifies the mechanics of skin graft transplanting as to reduce operating time, frequently, to one half or one third.

In brief, the Reese Dermatape technique for the excision of split skin grafts . . .

1. Permits the cutting of multiple drums of skin without loss of operating time.
2. Facilitates handling of the graft after excision.
3. Simplifies transplanting graft to the lesion.
4. Eliminates suturing in most cases.
5. Assures a higher percentage of successful "take".
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Relationship of Stress to Autonomic Lability

Studies in psychosomatics have shown that functional disorders often are a result of the patient's inability to adjust to emotionally stressful situations (stressor factors).

Nervous tension and chronic anxiety, discharged through a labile Autonomic Nervous System, can cause somatic disturbance. [1,2] Such states may involve any one of the organ systems or several at one time. [1,3] The outline below relates gastrointestinal and cardiovascular symptomatology to the exaggerated response of the autonomic nervous system.

	Physiologic Effects of Autonomic Discharge	
	Sympathetic	Parasympathetic
Gastro-intestinal	Hypomotility Intestinal Atony Hyposecretion Reduced salivation	Hypermotility Gastrointestinal spasm Hypersecretion
Cardio-vascular	Rapid heart rate Peripheral vaso-constriction	Slow heart rate Vasodilatation
Functional Manifesta-tions	Palpitation Tachycardia Elevated B. P. Dry mouth—throat	Heartburn Nausea-vomiting Low B. P. Colonic spasm

Data here tabulated is from references 3,4,5,6,7, given below.

Diagnosis of functional disorder is supported by the following indications of autonomic lability:

Variable Blood Pressure
Body Temperature Variations
Changing pulse rate
Deviations in B. M. R.
Exaggerated Cold Pressure Reflex
Glucose Tolerance Alterations

Therapy in these cases is directed toward: 1) relief of symptoms by drug therapy (so making the patient more amenable to psychotherapy); 2) psychotherapeutic guidance in making adjustment to stressful situations and correction of unhealthy attitudes.

Clinicians who have studied these disorders, including those of the menopause, report that good therapeutic results are produced by combined adrenergic (ergotamine) and cholinergic blockade (Bellafoline) with central sedation (phenobarbital) [8,9,10]. A convenient preparation of this nature is available in the form of **Bellergal Tablets.** Functional disorders are long-term therapeutic problems; therefore, drug treatment by the following method is recommended: 5 or 6 tabs. per day for the 1st week; then gradually reduce to the smallest dose effective in maintaining the patient symptom free (average: 3 tabs. daily). Interrupt for 1 week out of every month to assess results.

1. Ebaugh, F.: Postgrad. Med. *4:* 208, 1948. 2. Wilbur, D.: J.A.M.A. *141:* 1199, 1949. 3. Williams, E. and Carmichael, C.: J. Nat'l. Med. Assoc. *42:* 32, 1950. 4. Goodman, L. and Gilman, A.: The Pharmacological Basis of Therapeutics, The Macmillan Co., 1941. 5. Katz, L. et al: Ann. Int. Med. *27:* 261, 1947. 6. Weiss, E. et al: Am. J. Psychiat. *107:* 264, 1950. 7. Alvarez, W.: Chicago Med. Soc. Bulletin, 581, 1950. 8. Rakoff, A.: A Course in Practical Therapeutics, Williams and Wilkins, 1948. 9. Karnosh, L. and Zucker, E.: A Handbook of Psychiatry, C. V. Mosby Co., 1945. 10. Harris, L.: Canad. M.A.J. *58:* 251, 1948.

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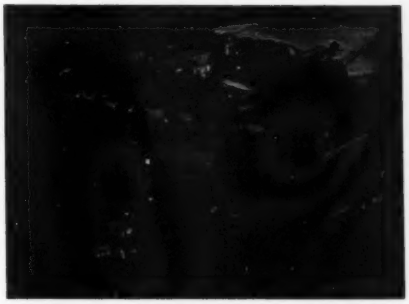

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